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Tennessee Valley Authority



# Draft Environmental Impact Statement and Wild & Scenic River Study Report on the Hiwassee and Tellico Rivers



April, 1994

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# **Draft Environmental Impact Statement and Wild & Scenic River Study on the Hiwassee and Tellico Rivers**

MONROE AND POLK COUNTIES, TENNESSEE

CHEROKEE NATIONAL FOREST

and

CHEROKEE COUNTY, NORTH CAROLINA

NANTAHALA NATIONAL FOREST

Lead Agency: USDA Forest Service

Cooperating Agency: Tennessee Valley Authority

Responsible Official: Mike Espy  
Secretary of Agriculture

Type of Document:

Legislative Environmental Impact Statement:

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## ABSTRACT

This Draft Environmental Impact Statement (DEIS) and Wild and Scenic Rivers Study documents the results of a study of segments of the eligible portions of the Hiwassee and Tellico Rivers to determine their suitability for inclusion in the National Wild and Scenic Rivers System.

The study area includes Polk and Monroe Counties in southeast Tennessee and Cherokee County in western North Carolina. The two rivers studied in detail for this analysis are the Tellico including the headwaters in North Carolina and the Hiwassee located entirely in Tennessee.

In 1990 and 1991, an eligibility study was conducted by the USDA Forest Service to evaluate rivers identified in the 1982 Nationwide Rivers Inventory (NRI). These rivers included the Conasauga, Doe, French Broad, Hiwassee, Little Tennessee, Ocoee, Tellico, and Watauga. Of those rivers evaluated for their eligibility, segments of the Conasauga, Doe, French Broad, Hiwassee, Tellico, and Watauga were found to be eligible for further study. Amendment 14 of the Cherokee National Forest Final Land and Resource Management Plan (FLRMP) was created to document these findings. Only segments of the Conasauga, Hiwassee and Tellico contained predominately National Forest lands. Therefore, the eligible sections of the Hiwassee and Tellico have been evaluated in this document. The eligible sections of the Conasauga River will be evaluated for suitability at a later date in cooperation with the Chattahoochee National Forest. The section of the Tellico River from the headwaters in North Carolina to the Tennessee state line was determined to be eligible for further study during the Nantahala-Pisgah Land Management planning process.

Three alternatives were developed by the interdisciplinary team for recommending which, if any, of the eligible segments should be designated as a part of the National Wild and Scenic Rivers System. They are as follows:

- A. Recommend none of the eligible segments of the Hiwassee and Tellico Rivers for designation. This "No Action" alternative would allow present management to continue.
- B. Recommend that an eligible section of 22.8 miles of the Tellico River (NC, TN) be designated as recreational under the Wild and Scenic Rivers Act, and that the Hiwassee River remain under present management as a State Scenic River.
- C. Recommend that eligible sections of 10.5 miles of the Hiwassee and 22.8 miles of the Tellico (NC, TN) be designated as recreational rivers under the Wild and Scenic Rivers Act. This is the preferred alternative.

This recommendation is consistent with the Land and Resource Management Plans for the Cherokee and Nantahala National Forests.

Reviewers should provide the Forest Service with their comments during the review period of the Draft Environmental Impact Statement. This will enable the Forest Service to analyze and respond to the comments at one time and to use the information acquired in the preparation of the Final Environmental Impact Statement, thus avoiding undue delay in the decision making process. Vermont Yankee Nuclear Power Corp. V. NRDC, 435 U.S. 519, 553 (1978). Environmental objections that could have been raised at the draft stage may be waived if not raised until after the completion of the Final Environmental Impact Statement. City of Angoon v. Hodel (9th Circuit, 1986) and Wisconsin Heritages, Inc v. Harris, 490 F. Supp. 1334,1338 (E.D. Wis. 1980). Comments on the Draft Environmental Impact Statement should be specific and should address the adequacy of the statement and the merits of the alternatives discussed (40 CFR 1503.3).

Comments should be received by: SEP 26 1994

Comments may be sent to:

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## SUMMARY

This Wild and Scenic Rivers Study Report and Draft Environmental Impact Statement (DEIS) is to provide the President and Congress with a report on the suitability or non-suitability of segments of the Hiwassee (TN) and Tellico (TN, NC) Rivers for inclusion in the National Wild and Scenic River System. This is required by the Wild and Scenic Rivers Act (1968), and is consistent with appropriate legal and regulatory requirements.

The Nationwide Rivers Inventory (NRI), completed in 1982 by the United States Department of the Interior, National Park Service, originally identified rivers that were free-flowing and possibly eligible for further study as candidates for the National Wild and Scenic Rivers System.

The Cherokee National Forest Final Land and Resource Management Plan (FLRMP) and Final Environmental Impact Statement (FEIS) declared that nine rivers listed in Management Area 5 of the FLRMP would be considered as possible eligible rivers for National Wild and Scenic River status.

Management Area 5 consists of lands and waters with high visual sensitivity and a high degree of public interest. These lands are unsuitable for timber production and include those rivers listed in the Nationwide Rivers Inventory. Originally, segments of the nine rivers were to be studied to determine their eligibility for this study: Conasauga, Doe, French Broad, Hiwassee, Little Tennessee, Nolichucky, Ocoee, Tellico, and Watauga.

The eligibility study, was conducted by the Cherokee National Forest. The Doe, Watauga, and French Broad Rivers corridors were determined to contain mostly private lands. Therefore, the Forest Service requested the State of Tennessee Department of Environment and Conservation be the lead agency for the further study of these segments.

The eligibility study determined the Little Tennessee and Ocoee River segments were not eligible for further study because they were not determined to be free-flowing. Identified segments of the Tellico and Hiwassee Rivers were also excluded from further study because they were not determined to be free-flowing.

Evaluation of the Conasauga River determined which segments were eligible for further study. However, the Cherokee National Forest has waived the opportunity to study this river at the present time and plans to cooperate with the Chattahoochee National Forest to study this river at a later date.

The Nolichucky River has been studied for suitability under its own study document and Environmental Impact Statement and is presently awaiting a review from the Secretary of Agriculture.

The above findings left only segments of two rivers to be studied at the present time. This includes the Tellico River from the TN/NC state line to just above River Mile 30 near Tellico Plains, Tennessee, and the Hiwassee River from the Apalachia Dam to the Forest proclamation boundary. Study segments of these rivers are located in Monroe and Polk Counties, Tennessee.

The Final Environmental Impact Statement (FEIS) for the Nantahala and Pisgah National Forests Land and Resource Management Plan (April 1987) determined that the Tellico River in North Carolina did not possess any outstandingly remarkable values and, therefore, was not eligible for consideration as a potential national wild and scenic river. This finding was partly based on criteria for outstandingly remarkable fishery values, which included streams classified as Special Native Trout Waters. At that time Tellico River was classed General Trout Waters. This determination was made independently for the North Carolina portion of the river without consideration of river values for the Tennessee portion.



Prior to July 1991, Special Native and Native Trout Waters were North Carolina Wildlife Resources Commission fishery management classifications for Designated Public Mountain Trout Waters with water quality and habitat conditions suitable for and containing self-sustaining wild trout populations. General Trout Waters included all streams not designated as Native or Special Native. It also included both streams stocked with trout and some with self-sustaining populations. Beginning July 1991, the Native and Special Native classifications were combined and changed to Wild Trout Waters. General Trout Waters was changed to Hatchery Supported Waters and most streams with self-sustaining trout populations were removed from this category. Since the North Carolina portion of Tellico River has self-sustaining populations of wild trout and was not being stocked, it was reclassified as Wild Trout Waters.

Subsequent analysis of the eligibility and suitability findings of the 1987 Plan is being conducted in response to the American Rivers, Inc. appeal of the Plan's analysis of potential wild and scenic rivers. New studies have included review and revisions to the eligibility criteria. The criteria for outstandingly remarkable fishery values has been changed to include streams classed as Wild Trout Waters to reflect the changes in the State classification system. Therefore, the Tellico River in North Carolina is eligible for further study in this suitability analysis.

News releases, letters to interested publics, two public meetings, and contacts made during the initial Eligibility Study raised several issues, both from the public and from the Forest Service to be addressed during the Rivers Suitability Study. The significant issues identified were:

1. Designation of the river segments as part of the National Wild and Scenic Rivers System may affect private land and the owners' ability to use the land as they choose. Specific concerns included: condemnation of private land easements, restrictions on private landowner rights, restriction of future development, and lack of adequate protection of private lands. This issue may be evaluated by whether or not the restrictions occur.
2. Designation would affect public use of the river corridors. Specific concerns included: limit of public access to the river, effects of designation on current recreation use, a need to manage public access, and the compatibility of OHV use of the upper Tellico River. This issue may be evaluated through the implementation of carrying capacity and visitor use studies, restrictions of permit numbers, and public access restrictions.
3. Designation could increase impacts on the river. Specific concerns included: recreation user conflicts, encourage new outfitters, increase road maintenance needs, increase litter, increased visitor use, increase shoreline impacts, and increased incidence of user rescue and first aid. This issue may be evaluated through implementation of carrying capacity and visitor use surveys.
4. Activities in these river corridors may have cumulative impacts on water quality in the river. Specific concerns included: water contamination by increased road use, OHV use, increased fishing pressure, and future need for increased municipal water supply. This issue may be evaluated by monitoring water quality parameters and accelerated demand for municipal water.

Other issues were raised during the scoping process. Those issues found to be non-significant were:

1. Wildlife is currently causing erosion problems within the river corridors. This is a non-significant issue because wildlife is managed by state wildlife agencies. The Forest Service manages wildlife habitat.
2. Rivers should be totally excluded from study and designation. This is a non-significant issue because the Forest Service has adopted the NRI decision to study these rivers. In addition, the Cherokee and Nantahala-Pisgah National Forests FLRMPs mandate the study of these rivers.
3. If the rivers are designated or remain non-designated, there needs to be protection of Proposed,

Endangered, Threatened, and Sensitive (PETS) species. This is a non-significant issue because endangered and threatened species are protected under the Endangered Species Act. In addition, the FLRMP's provide protection of proposed and sensitive species.

See Appendix D for specific public comment content analysis.

Three alternatives for designation or non-designation of the river segments were developed to respond to significant issues identified during the public involvement periods. The alternatives are:

- A. Recommend none of the eligible segments of the Hiwassee and Tellico Rivers for designation. This "No Action" alternative would allow present management to continue.
- B. Recommend that an eligible section of 22.8 miles of the Tellico River (NC, TN) be designated as recreational under the Wild and Scenic Rivers Act, and that the Hiwassee River remain under present management as a State Scenic River.
- C. Recommend that eligible sections of 10.5 miles of the Hiwassee and 22.8 miles of the Tellico (NC, TN) be designated as recreational rivers under the Wild and Scenic Rivers Act. (Preferred Alternative)

Table S-1, Summary of Environmental Consequences, summarizes the environmental and social consequences of each alternative.

**Table S-1: Summary of Environmental Consequences**

Factors Considered	Alternative A: No Action Current management will continue	Alternative B: Designate 22.8 miles of Tellico River; Hiwassee River remains as a State Scenic River.	Alternative C: <i>Preferred Alternative</i> Designate 10.5 miles of Hiwassee River and 22.8 miles of Tellico River
Watershed	No immediate effect. Potential for impoundments exists, thus altering the character of the watershed if impoundment is constructed on Tellico or Hiwassee Rivers.	Designation of Tellico would insure no impoundment construction on Tellico River study segment. Hiwassee River same as Alternative A.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.
Climate	No effect	No effect	No effect
Geomorphology	No effect	No effect	No effect
Soils	Allowed to continue soil compaction.	Minor soil compaction corrected with management plan implementation on Tellico River. Hiwassee River same as Alternative A.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.
Floodplains, Wetlands, and Riparian Areas	No immediate effect. Uncontrolled floodplain development on private lands Tellico River (TN) could continue. If private landowners in both river corridors do not apply BMPs, conditions may deteriorate.	No immediate effect. Long term, there would be no impoundments allowed on study segment of Tellico River and the river would be enhanced through implementation of a management plan upon designation. Hiwassee River same as Alternative A.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.
Minerals	Applications continue for mineral exploration and development on Federal lands on both rivers. Mineral activity on private land may continue.	Scenic easements may be purchased on Tellico River that would allow the Forest Service direct management of exploration and production sites within those easements. Applications on federal lands and activity on private lands for Hiwassee River would continue as in Alternative A.	Wild and Scenic authority would allow purchase of scenic easements on Hiwassee and Tellico Rivers and allow the Forest Service direct management of exploration and production sites.
Streamflow	No effect	No effect	No effect

**Table S-1: Summary of Environmental Consequences (Cont.)**

<b>Factors Considered</b>	<b>Alternative A:</b>	<b>Alternative B:</b>	<b>Alternative C:</b>
Water Quality	Water quality to remain fairly stable. BMP applications on National Forest lands is assured. Use of BMPs on private land may lead to degradation including sedimentation from pastures, timber harvest, construction, and fecal coliform contamination from livestock. Unregulated recreational use may also affect water quality. Continue state water quality regulations.	Water quality would be maintained or improve according to state water quality regulations. A river management plan and monitoring plan for the Tellico river upon designation would minimize non-point source pollution on federal and private lands. Hiwassee River is same as stated in Alternative A. Continue state water quality and regulations.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.
Fish and Wildlife	No significant effect. Habitat management for wildlife and fisheries on both rivers will continue.	Current use continues. Detrimental activities affecting fish and wildlife would not be allowed. A management plan would be written for Tellico River upon designation to strengthen present regulations and habitat management. Effects to the Hiwassee River is the same as stated in Alternative A.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.
Threatened, Endangered, and Sensitive Species	Protection would continue at present levels managed under respective FLRMP and appropriate laws. The potential for impoundments on both rivers would alter the habitat of TEST species.	Designation for Tellico would prevent potential impoundments leading to habitat alteration. Management plan and monitoring plan for Tellico River would be developed for all Federally listed species in the corridor and detrimental impacts to species would be eliminated. Effects to the Hiwassee River is the same as stated in Alternative A.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.
Vegetation	No decrease in existing board foot volume through timber harvest. Possibility of impoundments may alter vegetative and timber resources of both rivers.	Vegetative management on public and private lands of the Tellico River would be secondary to protection and enhancement of river values. There would be a minimal decrease in volume available for timber harvesting. Hiwassee River would be same as Alternative A with continued management as a State Scenic River.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.

**Table S-1: Summary of Environmental Consequences (Cont.)**

<b>Factors Considered</b>	<b>Alternative A:</b>	<b>Alternative B:</b>	<b>Alternative C:</b>
Recreational Activities	Current recreational activities would continue. Potential for increase in unregulated use. Free-flowing recreational opportunities may be threatened with potential of impoundments.	Public awareness may increase the use of the Tellico River. This use would be evaluated and monitored through carrying capacity studies. The effects on the Hiwassee River would be the same as Alternative A. Private land ingress and egress may continue at landowners discretion.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.
Navigability and Riparian Rights	Opportunity for impoundments exists altering flow. Federal, state, and local regulations would continue to apply on both Federal and private lands for riparian rights, ownership and streambank modification.	Designation of Tellico River may lead to increased used and trespass on private lands. Hiwassee is the same as Alternative A. Private landowners may continue to restrict or prohibit access to riverbanks on their land.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.
Hydropower, Water Supply, and Flood Control	Federal, state and local laws would continue to apply. Potential for impoundments exists on Tellico and Hiwassee Rivers.	No impoundments allowed on Tellico study segment. This may have an effect on future water supply needs for Tellico Plains, but not likely.	No impoundments allowed on study segments. This will not likely have any effect on water supply needs of Hiwassee or Tellico watersheds. Existing laws and regulations would continue to apply.
Land Ownership and Use	No significant effect. Existing local zoning ordinances on private lands would continue and more developed in the future. An increase in trespass is possible. On federal lands, interim protection would be removed, standard resource management activities as stated in FLRMP would be reinstated. Impoundments could alter the flow of these rivers.	Impoundments would not be allowed on Tellico corridor to change existing flow of the river. Designation may increase the value of private property and economic opportunities of the area. Hiwassee river is the same as Alternative A.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.



**Table S-1: Summary of Environmental Consequences (Cont.)**

<b>Factors Considered</b>	<b>Alternative A:</b>	<b>Alternative B:</b>	<b>Alternative C:</b>
Visual Resource	Current characteristics on federal lands would continue to be protected and enhanced through FLRMP Standards and Guidelines. Visible changes within corridors could increase as a result of continual roading and timber management on federal and private lands.	Enhanced protection of the Tellico River corridor with management plan development and implementation. Activities would not be evident to the casual user nor a dominant feature. Hiwassee River same as Alternative B.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.
Cultural and Historical Resources	May be an increase of disturbance from illegal collection of artifacts as well as road construction. Impoundments are possible which would lead to inundation of undiscovered cultural resource sites.	A river management plan would be developed for Tellico and strengthen existing cultural resource protection. Increased monitoring would provide data to prevent adverse impacts on cultural resources. Hiwassee River is the same as in Alternative A.	Effects are to both rivers are the same as stated in Alternative B for Tellico River.
Wilderness and Special Interest Areas	Continued management for Tellico and Hiwassee Rivers.	Designation of Tellico River would strengthen management for acreage adjacent to Bald River Wilderness. Hiwassee is same as Alternative A.	Designation would strengthen management for acreage adjacent to Bald River Wilderness and management of the Hiwassee State Scenic River.

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## CHAPTER I: INTRODUCTION

The intent of the Wild and Scenic Rivers Act of 1968 (PL 90-542) is to preserve some of the nation's free-flowing rivers for present and future generations. The Wild and Scenic Rivers Act and Public Law 88-29 authorized the Nationwide Rivers Inventory (NRI) which was begun in the early 1970's by the United States Department of the Interior (USDI) Heritage and Conservation and Recreation Service (HCRS). The USDI Park Service later absorbed the HCRS and completed the river inventory in 1982. The USDA Forest Service adopted the NRI as its inventory of potential wild and scenic rivers.

The Forest Service is not the lead agency on rivers that do not have sufficient adjacent National Forest System lands. Segments of six rivers were found to be eligible for further study. Of these six rivers, segments of three rivers on the Cherokee National Forest (Doe, French Broad, Watauga) were identified as being predominately outside the Forest boundary. The State of Tennessee was advised and recommended to be the lead agency for the study of those rivers. Presently, the state cannot take the lead on these three rivers, but would be able to provide assistance to the Forest Service on segments of the Conasauga, French Broad, Tellico and Hiwassee Rivers. Therefore, the Cherokee National Forest chose to study the eligible sections of the Tellico and Hiwassee Rivers at this time, including the upper section of the Tellico River in North Carolina. The upper Tellico was determined to be eligible during the Nantahala-Pisgah Land Management planning process. The study segments of the Tellico and Hiwassee Rivers were classified as recreational (Appendix A). The Conasauga, although eligible, was chosen to be studied at a later date in cooperation with the Chattahoochee National Forest.

Upon completion of the eligibility study, Cherokee National Forest Final Land and Resource Management Plan (FLRMP) was amended to reflect the findings of eligibility and ineligibility of river segments. This may be found in Amendment # 14 of the Forest Plan.

The Cherokee National Forest then assigned an Interdisciplinary Rivers Team to study the eligible sections of the Hiwassee and Tellico Rivers for inclusion in the National Wild and Scenic Rivers System. In addition, the eligible segment of the Tellico River in North Carolina required the cooperation of the Nantahala National Forest, Tusquitee Ranger District to assemble needed information to complete this study.

Factors considered when determining suitability included:

- Characteristics that would make the river a worthy addition to the system.

- Current status of land ownership and use in the area.

- Reasonably foreseeable potential use of resources enhanced, foreclosed, or curtailed if a river is designated.

- The values which would be foreclosed or diminished if the area is not protected as part of the system.

- Public, state, and local government interest in the designation of the rivers.

- Other concerns raised during the study.

## **CHAPTER II: PURPOSE AND NEED**

### **Proposed Action**

The Secretary of Agriculture proposes to recommend the United States Congress designate 10.5 miles of the Hiwassee River and 22.8 miles of the Tellico River on the Cherokee and Nantahala National Forest for inclusion in the National Wild and Scenic Rivers System (See Figure 1). The proposed classification for these rivers is recreational. Refer to Figure 1 for locations of the Hiwassee and Tellico Rivers. The Final EIS will be ready for recommendation in calendar year 1995.

### **The River Corridors**

The Hiwassee River is located in Polk County, Tennessee on the Cherokee National Forest. The Tellico River is located in Monroe County, Tennessee on the Cherokee National Forest and in Cherokee County, North Carolina on the Nantahala National Forest.

### **Purpose and Need for Action**

The National Wild and Scenic Rivers System was created by an act of Congress in 1968 so that: ". . . certain selected rivers of the Nation . . . shall be preserved in a free-flowing condition and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations (Section 1(b), Public Law 90-542)."

The purposes for including the Hiwassee and Tellico River segments in the system are: 1) to provide national recognition for the rivers; 2) to protect the rivers from the serious threat of water resource projects such as dams, hydropower plants, or other incompatible developments which could change the character of the rivers; 3) to protect the outstanding recreation, fish and wildlife, and botanical features of the Hiwassee River and the outstanding recreation, historical and cultural, botanical, and fishery resources on the Tellico River; and 4) to protect and enhance the integrity of the Hiwassee and Tellico watersheds.

### **Decision to be Made**

The decision to be made is whether or not to what extent and classification, the 10.5 mile segment of the Hiwassee River and the 22.8 mile segment of the Tellico River be recommended for inclusion in the National Wild and Scenic Rivers System.

## **CHAPTER III: ALTERNATIVES, INCLUDING PROPOSED ACTION**

### **Public Contact**

Before the alternatives could be developed, issues were explored through a public participation process as required by the National Environmental Policy Act (NEPA). A public participation plan was developed with an approximate timeline of scheduled events. News releases were published in local and regional papers. A mailing list was developed to include all adjacent landowners and identified persons and organizations assumed to be interested in the Cherokee and Nantahala-Pisgah Land Management process, and personal contacts were made with identified legislators and their staff.

Public open houses were held to invite individual contact with the team members. All of the comments received addressed the issue of designation in general. Private landowners within the study corridor were concerned as to how the designation would affect the use of their land.

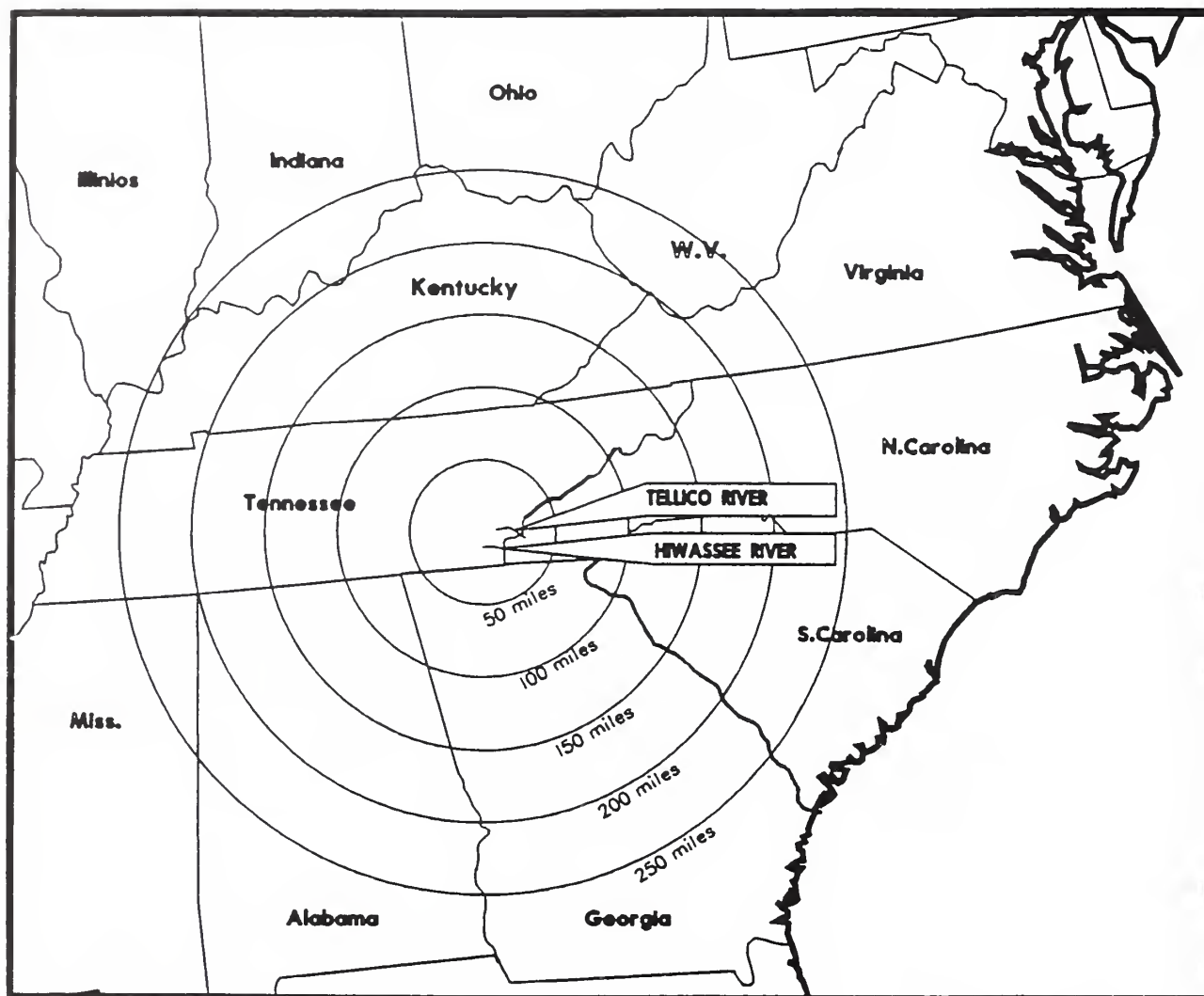


Figure 1: Regional Location Map

## List of Issues

A list of issues received during this scoping process was developed and analyzed by the team. The issues determined to be significant to the study process are as follows:

1. Designation of the river segments as part of the National Wild and Scenic Rivers System may affect private land and the owners' ability to use the land as they choose. Specific concerns included: condemnation of private land easements, restrictions on private landowner rights, restriction of future development, and lack of adequate protection of private lands. This issue may be evaluated by whether or not the restrictions occur.



2. Designation would affect public use of the river corridors. Specific concerns included: limit of public access to the river, effects of designation on current recreation use, a need to manage public access, and the compatibility of OHV use of the upper Tellico River. This issue may be evaluated through the implementation of carrying capacity and visitor use studies, restrictions of permittee numbers, and public access restrictions.

3. Designation could increase impacts on the river. Specific concerns included: recreation user conflicts, encourage new outfitters, increase road maintenance needs, increase litter, increased visitor use, increase shoreline impacts, and increased incidence of user rescue and first aid. This issue may be evaluated through implementation of carrying capacity and visitor use surveys.

4. Activities in these river corridors may have cumulative impacts on water quality in the river. Specific concerns included: water contamination by increased road use, OHV use, increased fishing pressure, and future need for increased municipal water supply. This issue may be evaluated by monitoring water quality parameters and accelerated demand for municipal water .

Other issues were raised during the scoping process. Those issues found to be non-significant were:

1. Wildlife is currently causing erosion problems within the river corridors. This is a non-significant issue because wildlife is managed by state wildlife agencies. The Forest Service manages wildlife habitat.

2. Rivers should be totally excluded from study and designation. This is a non-significant issue because the Forest Service has adopted the NRI decision to study these rivers. In addition, the Cherokee and Nantahala-Pisgah National Forests FLRMPs mandate the study of these rivers.

3. If the rivers are designated or remain non-designated, there needs to be protection of Proposed, Endangered, Threatened, and Sensitive (PETS) species. This is a non-significant issue because endangered and threatened species are protected under the Endangered Species Act. In addition, the FLRMP's provide protection of proposed and sensitive species.

## How Alternatives Were Developed

Significant issues identified by the public and by the Forest Service were included in the development of the alternatives. To determine the rivers' suitability for designation, these alternatives were analyzed as directed in Forest Service Handbook (FSH) 1909.12, Chapter 8, and in the United States Department of Interior (USDI) and the United States Department of Agriculture (USDA) jointly issued Final Revised Guidelines for Eligibility Classification and Management of River Areas (47 Federal Register 34457, September 7, 1982.).

Refer to Public Participation Report (Appendix D) for detailed public comment analysis.

Alternatives were developed to respond to at least one significant issue. In addition, each alternative meets the purpose and need for this proposal. Three alternatives regarding the inclusion or non-inclusion of the study segments of the Hiwassee and Tellico Rivers (10.5 miles and 22.8 miles respectively) in the National Wild and Scenic Rivers System were developed by an Interdisciplinary Team (Rivers Study Team). This team is composed of Forest Service personnel and a TVA partner. These persons have various backgrounds and knowledge of natural resources and their management.

The study presents a No Action alternative as required by the NEPA. A second alternative was developed to designate the study section of the Tellico River, currently under Forest Service Management and leave the Hiwassee study section under State of Tennessee Scenic River management. Another alternative calling for the national designation of all eligible segments, as required by the Federal Register, September 7, 1982, was also identified.

Mitigation and monitoring plans for wildlife, fisheries, botanical, and aquatic invertebrates may be found in the Biological Assessment (BA) and Biological Evaluation (BE). See Appendices B and C. Monitoring is provided by the Cherokee and Nantahala-Pisgah FLRMPs and is considered part of each alternative.

## **Description of the Alternatives**

### **Alternative A - No Action**

In this No Action alternative, the study segments of the Hiwassee River and Tellico River are not recommended for inclusion in the National Wild and Scenic Rivers System. This finding would result in eventual removal of the protected status specifically afforded to the Forest Service managed lands being studied for inclusion in the National Wild and Scenic Rivers System. This alternative does not meet the intent of the Wild and Scenic Rivers Act.

Alternative protection for management of river values would be provided for national forest lands within the corridors by the Cherokee National Forest and the Nantahala-Pisgah FLRMP's. The Hiwassee River would also be managed under the direction of the State of Tennessee Scenic Rivers Act and Hiwassee River Strategic Management Plan written by the State of Tennessee.

In general, the rivers would be managed in a free-flowing condition. Current management provides for protection and enhancement of water quality and riparian area values. The portion of the Tellico River corridor in North Carolina would continue to be operated allowing for the motorized Off Highway Vehicle (OHV) use on designated trails.

Federal and state laws would continue to protect PETS species and archaeological and historical sites.

The existing management practices are described in part on pages III-3 to III-4, IV-97 to IV-101, and pages IV-183 to IV-193 under Management Area 5 and 18 of the Cherokee National Forest FLRMP and on pages II-1 to II-13 of the Nantahala-Pisgah National Forest FLRMP (under Plan Responses to Issues, Concerns and Opportunities). Specifically, the following standards are incorporated by reference from the Nantahala-Pisgah FLRMP: Forest-wide standards (pages III-4 to III-29); Management Area 1B (pages III-39 to III-48); Management Area 2C (pages III-49 to III-61). All privately owned lands would continue to be managed by the landowner in accordance to any federal, state or local land or water use policies or local zoning ordinances.

### **Alternative B**

Alternative B addresses significant issue #1 because of the greater percentage of private land ownership in the Hiwassee River corridor.

This alternative recommends the designation of study segments not currently protected under state government scenic rivers legislation. This would include 22.8 miles of the Tellico River. The segment of river from the headwaters in North Carolina to the McDaniel Bridge near Tellico Plains, Tennessee would be classified as recreational. The Hiwassee River would remain under the management set forth in the Cherokee National Forest FLRMP (Management Area 5) and the guidelines of the State of Tennessee Scenic Rivers Act.

Through a Memorandum of Understanding with the Tennessee Department of Environment and Conservation (TDEC), Tennessee Wildlife Resource Agency (TWRA), Tennessee Valley Authority (TVA), the USDA-Forest Service shall make every effort to manage National Forest lands adjacent to the Hiwassee River with compliance of the Tennessee Scenic River Act.

The segment of the Tellico River would be managed according to the guidelines established by the Wild and Scenic Rivers Act, the Final Revised Guidelines for Eligibility, Classification, and Management of River Areas (Federal Register 34457, September 7, 1982), Secretary of Agriculture regulations and the Forest Service Manual (2354), and Land Management Planning Handbook (1909.12.8). These guidelines apply only to National Forest lands.



In general, the river will be managed to protect and enhance the values for which it was designated while providing for public recreation and resource uses which would not adversely impact or degrade those values. Appendix A contains specific information about outstanding remarkable values of each river.

The river will be managed in a free-flowing condition. Existing water quality would be maintained or enhanced. Watershed improvement or stabilization projects would be permitted. Water resource projects that would adversely affect the free-flowing condition of the Tellico River or its values would be prohibited.

Fish stocking would be permitted to continue. Fish habitat improvements would be allowed provided they do not adversely affect the free-flowing characteristic and harmony of the surrounding landscape.

The forest cover would be managed to maintain or enhance river values. Trees could be cut for use in the construction and maintenance of authorized improvements within the river corridor. Forestry practices would be similar in nature and intensity to those present at the time of designation.

Existing roads are permitted in recreational river areas. Motorized travel is generally permitted, but may be restricted or prohibited where necessary to protect the river values.

Public use may be regulated and distributed where necessary to protect and enhance the resource values of the river area. Basic facilities may be provided to absorb user impacts on the resources. New major public use facilities, such as developed campgrounds, may be located within the river area provided they do not have an adverse effect on the river values.

Cultural resource sites would be protected in accordance with relevant laws and regulations.

Wildfires would be suppressed using methods that cause the least lasting impact on the river area. Prescribed fires may be utilized to maintain environmental conditions or to achieve specific resource objectives.

Forest pests would be controlled in a manner consistent with relevant laws and regulations.

Mineral exploration and development would be permitted consistent with relevant laws and regulations.

Scientific research would be permitted.

Land uses and developments on private lands within the river area which were in existence when the river is designated may be permitted to continue. New uses of these lands must be evaluated for their compatibility with the purposes of the Wild and Scenic Rivers Act.

### Alternative C (*Preferred Alternative*)

This alternative was developed to address significant issues 1, 3, and 4.

This alternative recommends designation of all eligible study segments of the Hiwassee and Tellico Rivers. This includes the 10.5 mile section of the Hiwassee River from the Apalachia Powerhouse to the Forest proclamation boundary and 22.8 miles of the Tellico River from the headwaters in North Carolina to the McDaniel Bridge near Tellico Plains, Tennessee. The classification for both of these rivers is recreational.

The river corridor would be managed according to guidelines established by The Wild and Scenic Rivers Act, the Final Revised Guidelines for Eligibility, Classification and Management of River Areas (Federal Register 34457, September 7, 1982), Secretary of Agriculture regulations and the Forest Service Manual (2354) and Land Management Planning Handbook (1909.12.8). These guidelines do not apply to privately owned lands.

Protective measures under national wild and scenic rivers designation would supplement the management guidelines of the Tennessee State Scenic Rivers designation for the Hiwassee River. Appendix A contains specific information about outstanding remarkable values of each river.

Management for the recreational segments would be the same as stated for the Tellico River in Alternative B.

### Alternatives Considered but Eliminated from Detailed Study

1. Eliminate segment of the Tellico River from the headwaters in North Carolina to the North Carolina/Tennessee state line (5.8 miles).

This alternative was determined to be inappropriate due to the significance of the headwaters and its influence on downstream conditions. In addition, due to the significant amount of Federal ownership in the study corridor in North Carolina, it was determined that this section would be studied along with the study corridor in Tennessee.

2. Designate eligible sections of Hiwassee and Tellico study corridors in Federal ownership, and omit those lands in private ownership.

The states of North Carolina and Tennessee have no immediate plans to study non-federal acreage of the Hiwassee and Tellico rivers at this time. Findings determined a minimal percentage of private ownership in each of the study corridors. Therefore it was not feasible to develop this alternative.

3. Designate eligible sections of the Hiwassee study corridor and leave eligible sections of the Tellico River under current management.

Based on the public response at open houses and through replies by mail, the sentiment of the public was to leave the Hiwassee River under current management or to designate both of the rivers at one time. The public appeared to be dissatisfied with current management and did not want additional constraints placed on the river by national designation. Therefore, it was determined that this alternative would not be viable given the sentiment of the public responses.

## **CHAPTER IV: DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES**

### **Description of the Hiwassee and Tellico River Corridors**

The segments of the Hiwassee and Tellico Rivers are located in the Cherokee National Forest in Polk and Monroe Counties, Tennessee and in the Nantahala National Forest in Cherokee County, North Carolina.



Figure 2: Tellico River Corridor

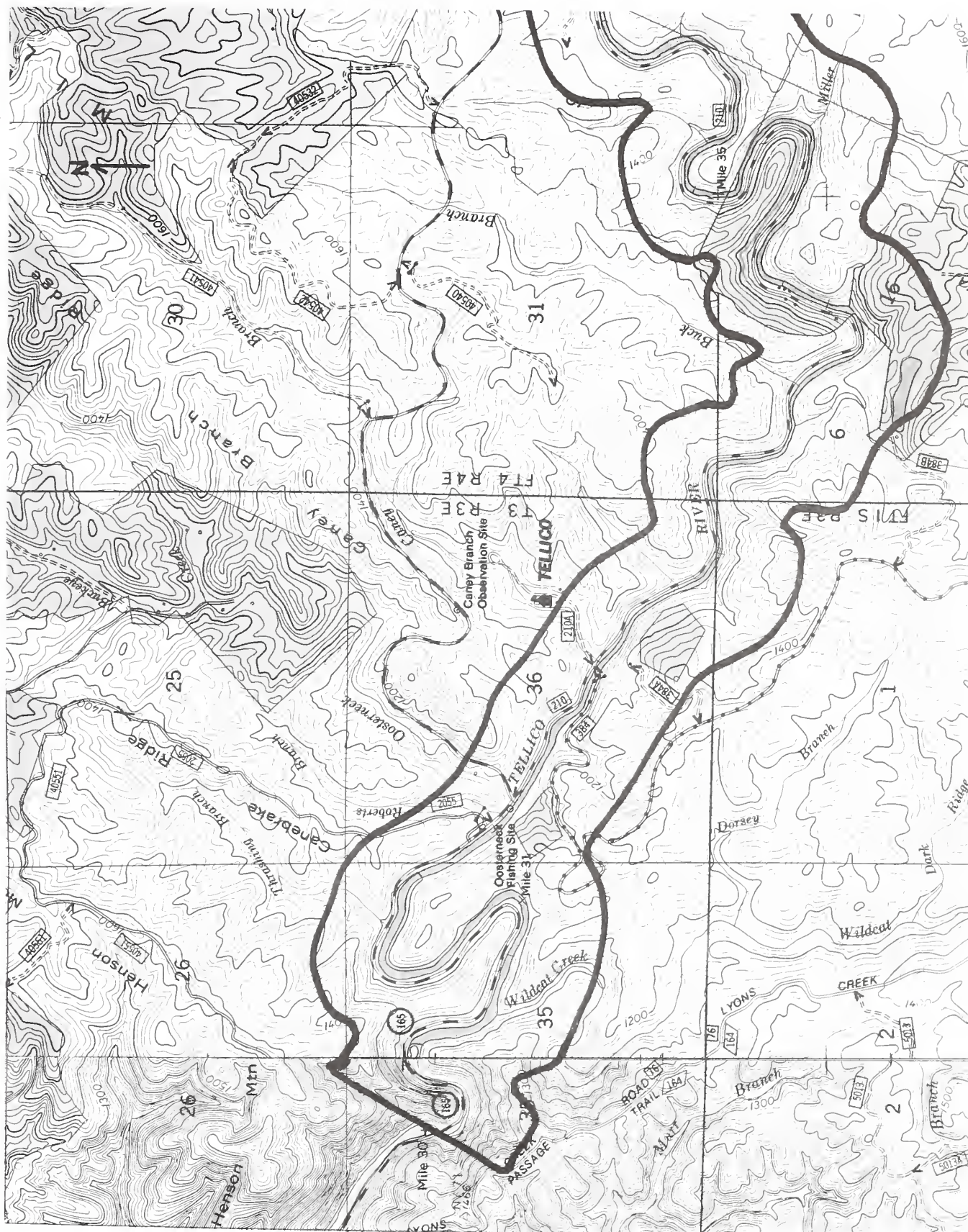




Figure 2: Tellico River Corridor (cont.)

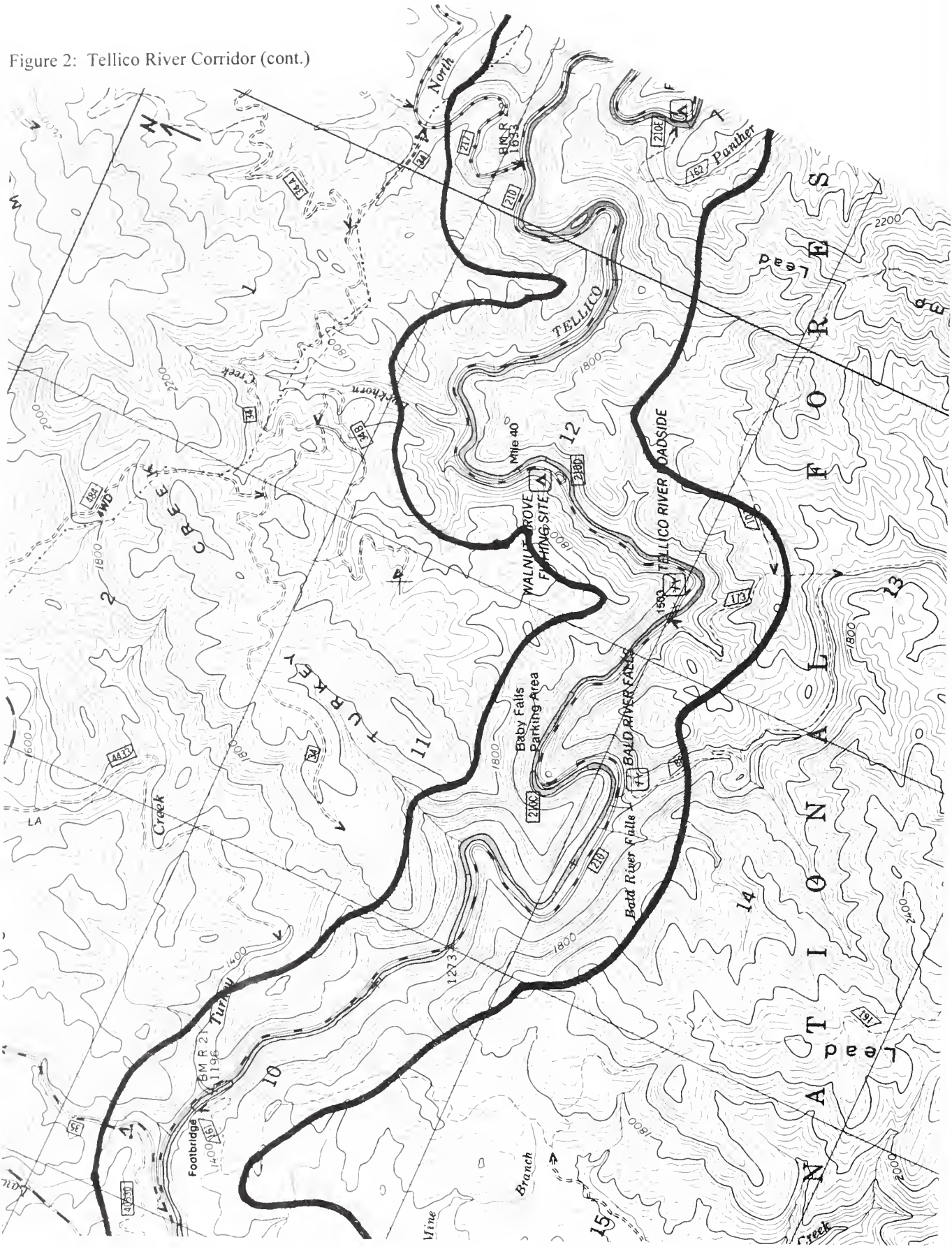


Figure 2: Tellico River Corridor (cont.)

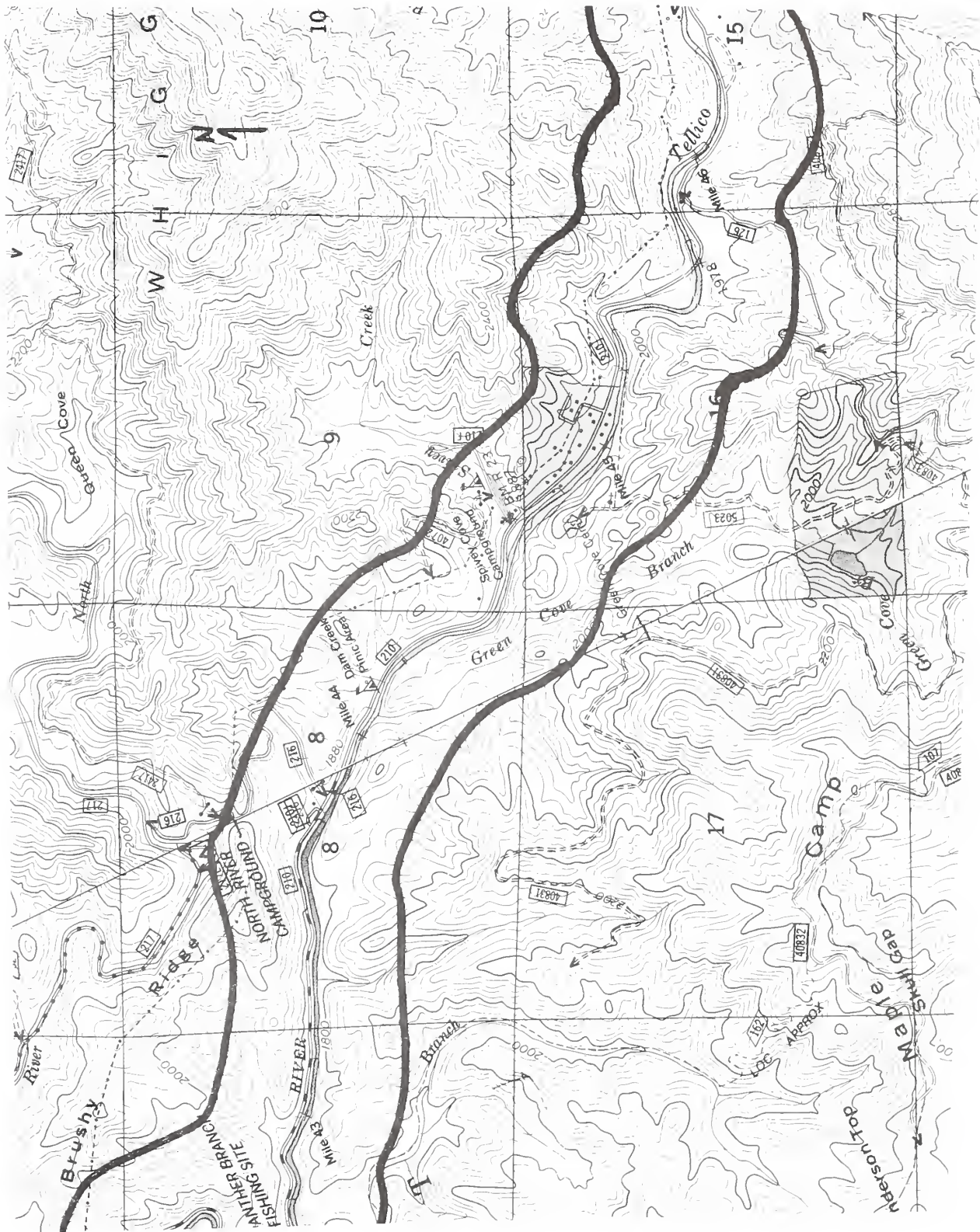




Figure 2: Tellico River Corridor (cont.)

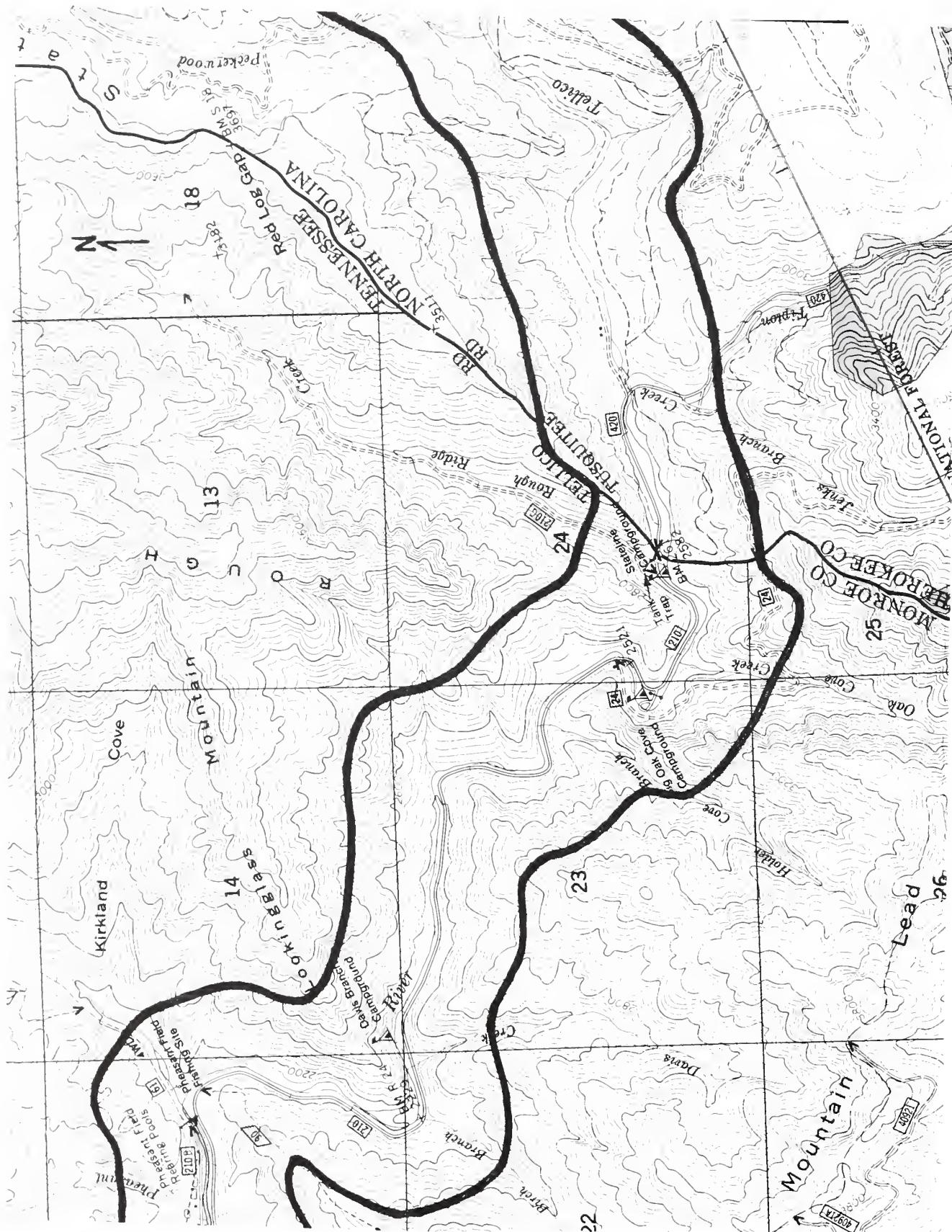


Figure 2: Tellico River Corridor (cont.)

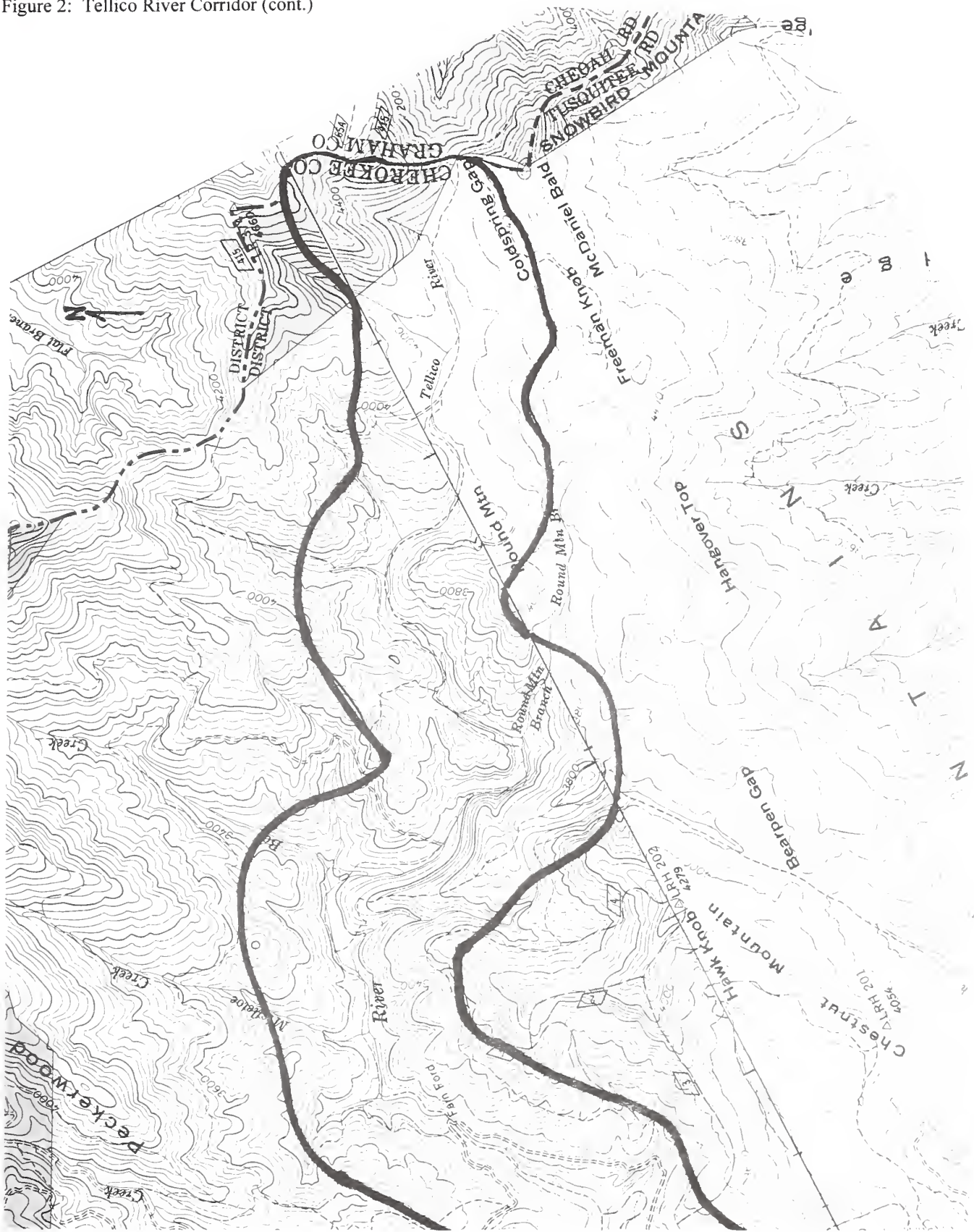




Figure 3: Hiwassee River Corridor

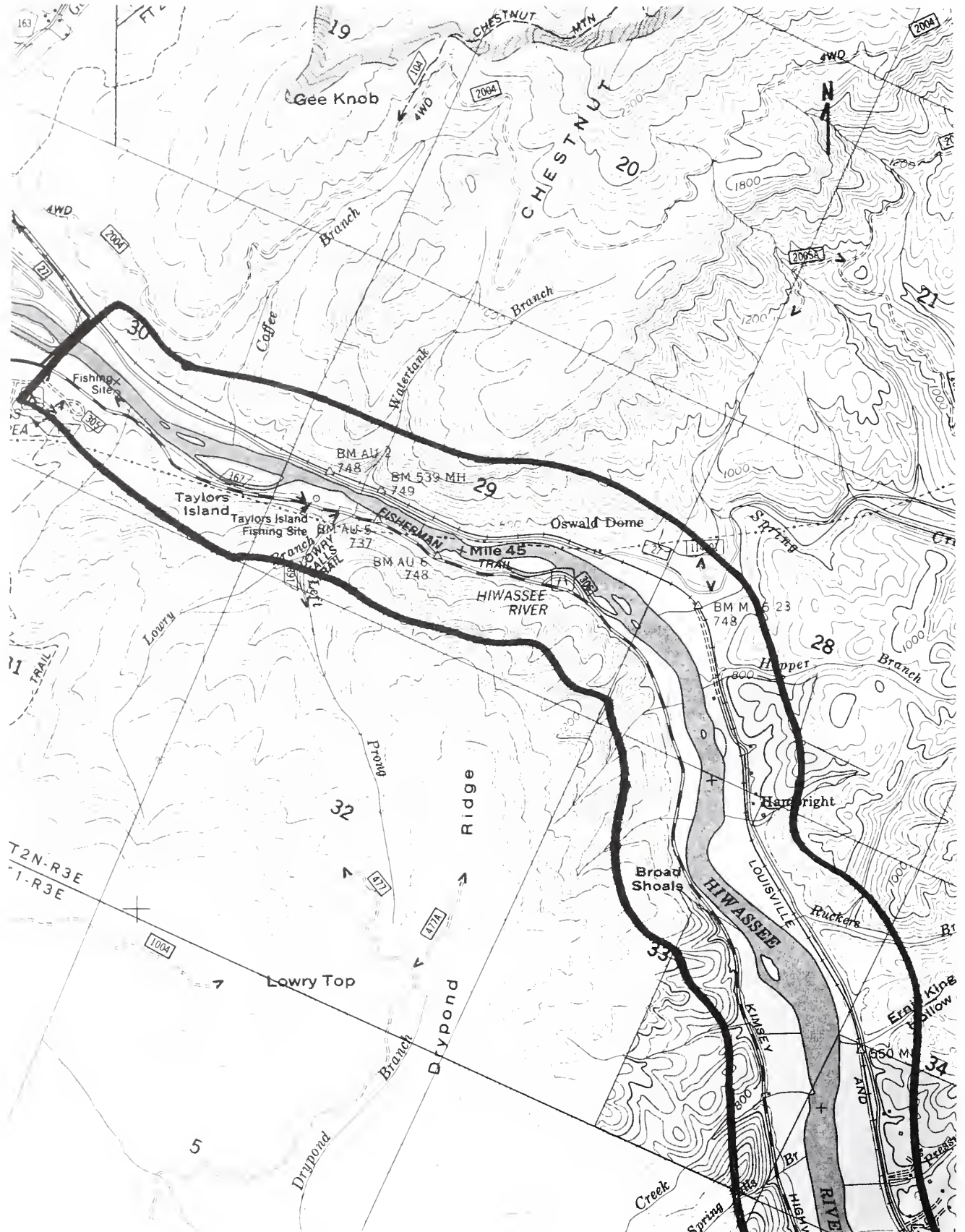


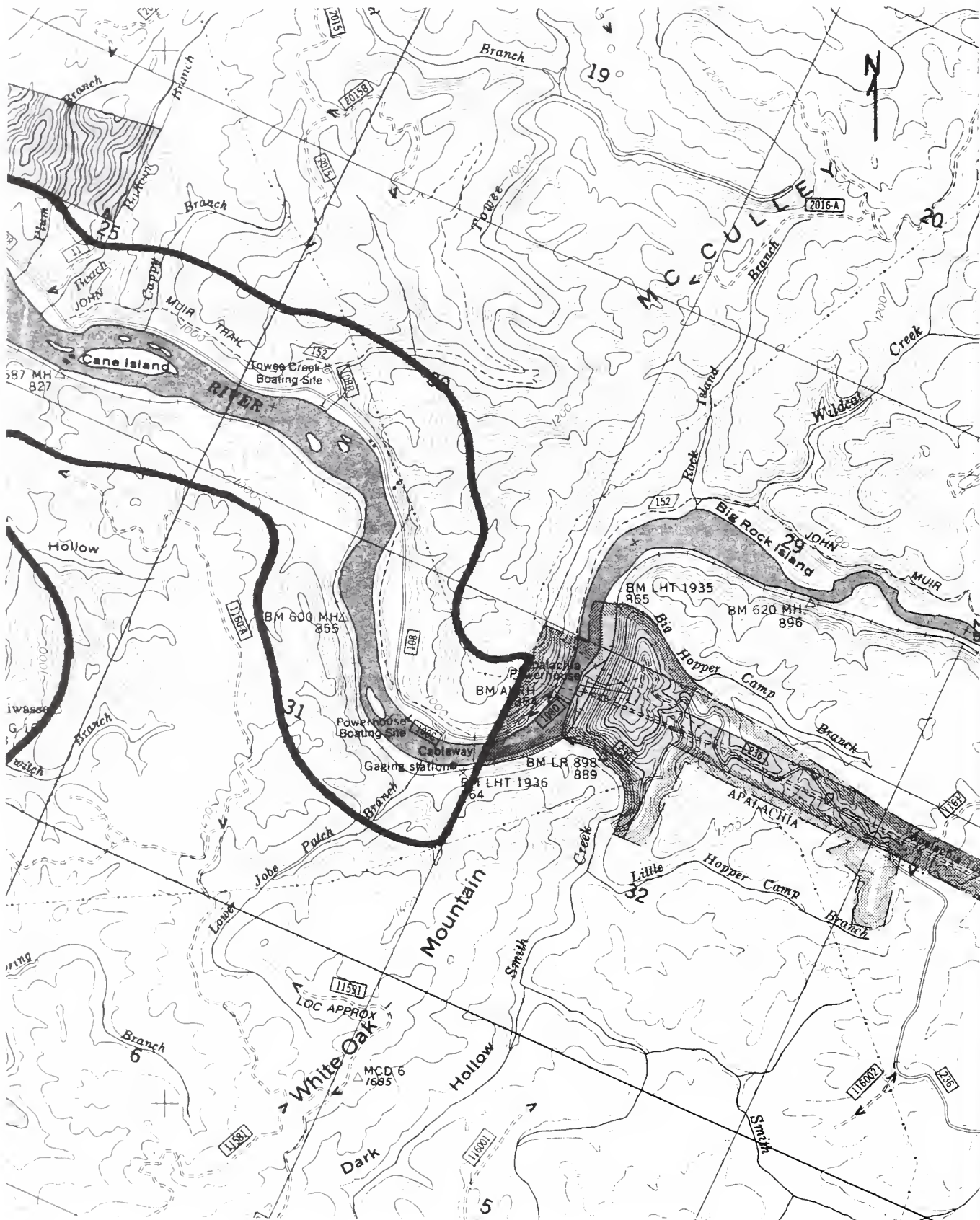


Figure 3: Hiwassee River Corridor (Cont.)





Figure 3: Hiwassee River Corridor (Cont.)



The study segment of the **Tellico River** comprises 5.8 miles in North Carolina from the headwaters to the Tennessee state line and 17.0 miles in Tennessee from the state line to near River Mile 30 at the McDaniel Bridge. The total mileage is 22.8 miles (See Figure 2).

The study segment of the **Hiwassee River** reaches for 10.5 miles immediately below the Apalachia Powerhouse to the Forest proclamation boundary at Long Island (near Quinn Springs)(See Figure 3).



The recommended corridor boundary for the Hiwassee and Tellico River study segments is an average of 1/4 mile from the left and right river banks.

## Watershed

The Hiwassee River is the southernmost tributary feeding into the Tennessee River from the Appalachian Mountains. Its watershed covers 2700 square miles of Georgia, North Carolina, and Tennessee in the Blue Ridge and Ridge and Valley Provinces of the Appalachians (Table 1). The river begins in Towns County in the North Georgia mountains from tributaries in the Chattahoochee National Forest. It flows into Cherokee County, North Carolina where the Nottely River joins it as a major tributary. In North Carolina, the river makes its way through the Nantahala National Forest. At River Mile 65, the river crosses into Polk County, Tennessee (Cherokee National Forest). The Hiwassee State Scenic River begins at the Tennessee/North Carolina state line and extends to Highway 411 bridge. The Ocoee River, another major tributary, joins the Hiwassee west of the National Forest boundary. The Hiwassee then flows into the Tennessee River in Meigs County, north of Chattanooga.

The *Hiwassee River* land ownership is a patchwork of private and public land, with the public land divided among National Forest, a state park, and TVA, which operates eight reservoirs in the watershed. The river and its tributaries support native trout waters and a put-and-take fishery. Overall, about 32 percent of the land is publicly owned. The large majority of the public land is forested, while private land use includes forest, row crops, dairy, beef, and chicken production, and some manufacturing (Cox, 1990). In addition, several towns and many small communities and rural residences are located in the area. The Hiwassee and its tributaries are used for municipal and industrial water supply.

The *Tellico River* is located in Tennessee and North Carolina, and is a major tributary to the Little Tennessee River. The watershed comprises 285 square miles in Cherokee County, North Carolina and Monroe County, Tennessee. The headwaters of the Tellico River are found in the deep mountain valleys of North Carolina's Blue Ridge. A small portion of the watershed in North Carolina is privately owned, and the rest is federal ownership managed by the Nantahala National Forest. As the river flows east into Tennessee, it meanders through the Cherokee National Forest and small sections of private lands. After leaving the national forest, the river turns northward to join the Little Tennessee river at Tellico Lake. Many tributaries feed into the Tellico River including Sycamore Creek, North River and Bald River. The river and its tributaries support native trout populations. The private lands in the corridor include seasonal residences such as the Green Cove community and some year round residences. Down stream of the national forest, there are several small communities, various types of agriculture and forested land.

**TABLE 1. WATERSHED AREA AND RIVER LENGTH**

River	Drainage Area- Total <sup>a</sup> (miles)	Drainage Area- Elig.Segment <sup>b</sup> (square miles)	Total River Length- Length (miles)	Segment Length (miles)	River Mile
Hiwassee	2700	1263	138.3	10.5	43.8 to 53.5
Tellico	285	106	52.8	17.0 in TN 5.8 in NC	30 to 48 48 to headwaters

<sup>a</sup>From headwaters to confluence with Tennessee River and Little Tennessee River, respectively

<sup>b</sup>From headwaters to lower limit of eligible segment

## Effects to Watershed

Alternative A - There will be no effect on the watershed with this no action alternative. There will be no recreational classification for the study segments of the Hiwassee nor the Tellico Rivers.

Alternatives B and C - Designation of respective river segments in each alternative would have no immediate effect on the watershed. Designation would preclude any impoundments in the designated segments of the rivers. It would not necessarily preclude impoundments in other areas of the watersheds above and below the study segments. However, the free-flowing nature of the recreational classification cannot be impaired. The Tennessee Valley Authority has no current plans for projects on the Hiwassee and Tellico Rivers.



## **Climate**

Mean annual precipitation is 65-75 inches, mostly in the form of rain (TVA, 1959). March receives more precipitation than any month and October receives the least. The average annual temperature in 1991 in Copperhill, TN was 57.8 degrees Fahrenheit (F). January was the coldest month, with a mean temperature of 39.5 degrees F, while July was the hottest month with a mean temperature of 76.3 degrees F. The winter low for 1991 was 6 degrees F and the summer high was 92 degrees F. (NOAA, 1991).

## **Effects to Climate**

None of the alternatives identifying designation or non-designation of the Hiwassee and Tellico Rivers will have a significant effect on the local or regional climate.

## **Geomorphology**

The geologic characteristics that can be assigned are:

### **Class A - Distinctive**

The river and valley clearly display significant or unusual geomorphic or structural features. It also includes those rivers clearly exposing geologic formations which are visible in few or no other sites. The amount of exposed rock is significant which provides excellent opportunities for geologic study.

### **Class B - Common**

The amount of exposed rock is limited; features and formations are typical of those commonly found in the Appalachian mountains. There is some opportunity for geologic study.

### **Class C - Minimal**

The river provides few or no exposed rock formations and no significant geologic features.

**Hiwassee River** - The study segment of the Hiwassee River flows from the Appalachia powerhouse to the proclamation boundary at Long Island. The river flows through Pre-Cambrian-aged meta-sedimentary rocks of the Great Smoky Mountains Group and a narrow area of Cambrian-age Shady dolomite. The river section terminates just past where it has cut through the Starr Mountain Window. This window exposes younger Cambrian-age rock formations through the older Pre-Cambrian-aged formations. This window is at the boundary between the Blue Ridge and Ridge and Valley Provinces. This explains the presence of old magnesium and manganese (and possibly zinc) mines. Dolomite is a calcium and magnesium carbonate sedimentary rock and both manganese and zinc can associate with this formation. According to the Tennessee geologic map, the river section flows across four faults within and between the Cambrian and Pre-Cambrian-aged rocks. While cliffs and other outcroppings of the Pre-Cambrian rock outcrop, predominantly up-river, this section near the west end is clearly the most interesting geologically. However, similar windows are exposed in many places in both Tennessee and North Carolina, although this is the most westerly exposure. Also, a large part of both the north and south parts of the Starr Mountain lie out of the corridor and dense vegetation and soils make the formations difficult to see. This segment of the Hiwassee is considered to be Common.

**Tellico River** - The study segment of the Tellico River begins at the headwaters in North Carolina and ends at the McDaniel Bridge near Tellico Plains, Tennessee. The river flows through Pre-Cambrian rocks of the Great Smoky Mountain group. These rocks are meta-conglomerates, meta sandstones and slates and are part of a larger sequence known as the Ocoee Supergroup that makes up a large section of the Southern Appalachian Blue Ridge Province. This province is bounded on the southeast by the Brevard fault and on the northwest by the Blue Ridge fault system. These faults transported crystalline thrust sheets of Precambrian basement, late Precambrian - early Paleozoic meta-sedimentary and metavolcanic rocks and Paleozoic plutons northwest over rocks of the Ridge and Valley Province in Tennessee. The origins of the rocks in the Blue Ridge date back billions of years. They are the product of deposition of sediments and volcanic material in rift basins formed during crustal extension and metamorphism during deep burial and crustal collision, plus pieces of continental crust. These rocks were then intruded by granitic pluton. The mountains themselves reached their present position and attitude at the end of the Paleozoic Era, about 245 million years ago.

The headwaters of the Tellico River are in the Snowbird Mountains of southwestern North Carolina. The first 1/10 mile of the river, just west of the Cherokee/Graham County line, is in private ownership. The river flows generally northwest for approximately 5.8 miles to the Tennessee/North Carolina border. Rocks in the area of the Tellico River in North Carolina are divided into two formations of the Great Smoky Group, a subdivision of the Ocoee Supergroup. The rocks of Ocoee Supergroup are Precambrian. For the first few miles, the Tellico River flows through the meta-sedimentary rocks of the Wehuttu Formation. The rocks in the Wehuttu are dark gray, graphic and sulfidic slates to schists, including mica schist, metagraywaches and metaconglomerates. Approximately half-way to the Tennessee border, the rocks change to the dark gray slates and philites of the Copperhill Formation. These rocks may also be graphitic and sulfidic and include metagraywaches.

Many good scenic opportunities are provided by the cliffs, waterfalls, and rapids on the river and its tributaries. There is road or trail access along most of the Tellico River which provides an opportunity for study or recreation.

Both the Wehuttu and Copperhill Formations have wide geographic extent and are not unique to this area. Though the topography is interesting and scenic it is not unique, these features being common to the Blue Ridge.

The river is an incisive river with a "V" shape. Several large sections of cliffs have been carved by the river. Since the river flows nearly perpendicular to the strike and opposite of the dip, excellent structures are exposed. One area observed appeared to have the original sedimentary bedding and cross-bedding exposed.

Two caves are exposed in the river and appear to have been formed by the physical processes and are not geologically distinctive. The Tellico is fed by many streams high into the watershed. Scenic falls are seen at Bald River, located near the confluence with the Tellico River. Class III, IV, and V rapids are formed by bedrock and boulders.

The access to State Line Campground provides study opportunities for geologic research. The features exposed are not unique, but are not common either. The river has a perpendicular strike orientation which makes the best exposure of structures. However, there are enough other areas that are crossed by roads and water that does not make Distinctive a proper classification. Therefore, the geologic classification of this segment of the Tellico is Common.

## Effects to Geomorphology

No effects to geomorphology would occur from designation or non-designation.

## Soils

Soils in the study corridors have a variety of physical, chemical, and morphologic properties that provide a range of capabilities and suitabilities for use and management. Land uses are based on these properties, physiographic position on the landscape, their slope, drainage, parent materials, and past management.



**Hiwassee River** - The soils in the Hiwassee River area lie within the Blue Ridge Province. The soils exist in geologic formations of the Walden Creek Group, Sandsuck Formation, Cochran Conglomerate, Conasauga Group, Chilhowee Group, and Knox Group. The parent materials are composed of gneiss, mica schist, phyllite, quartzite, sandstone, siltstone, slate and shale.

The soils in the Hiwassee River area are Cataska, Citico, Congaree, Fletcher, Jefferson, Petros, Ranger, Shelocta, State, Suches, and Tusquitee.

The Cataska series consists of excessively drained upland soils formed in residuum weathered from phyllite and slate. Slope range is 35 to 90 percent. The Citico series consist of, well drained steep soils on the lower parts of mountain slopes. Slope range is 15 to 60 percent. The Congaree series consists of deep well drained, permeable soils on bottomlands. Slope range is 0 to 5 percent. The Fletcher series consists of well drained, sloping to moderately steep soils on mountain ridge tops and upper side slopes. Slope range is 12 to 35 percent. The Jefferson series consists of well drained soils on colluvial foot slopes, mountainsides, and benches. Slope range is 5 to 50 percent. The Petros series consists of excessively drained soils on steep to very steep mountainsides. Slope range is 60 to 90 percent. The Ranger series consists of well drained, moderately steep to very steep soils. Slope range is 25 to 75 percent. The State series consists of deep, well drained soils on high bottoms or low stream terraces. Slope range is 2 to 5 percent. The Suches series consists of moderately well drained, nearly level soil on floodplains. Slope range is 0 to 5 percent. The Tusquitee series consists of moderately deep, well drained permeable soils on steep and very steep uplands. Slope range is 20 to 75 percent.

**Tellico River** - The soils in the Tellico River area of Tennessee lie within the Blue Ridge Province. They are in the geologic formations of the Walden Creek Group, Great Smoky Group and Shady Dolomite. The parent materials are arkosic sandstone, graywacke, limestone, phyllite, quartzite, sandstone, slate and shale.

The soils in the Tellico River area in North Carolina are on the Copperhill and Wehuttu geologic formations. The parent materials are slate, phyllite, metaconglomerate, and metagraywacke sandstone. These formations contain some bedrock that is unstable and some that is sulfidic and could cause some water quality problems if exposed to air and water.

The soils in the Tellico River area consist of Brookshire, Cataska, Citico, Ditney, Jeffrey, Pope, Ranger, Shelocta, Shouns, Spivey, Staser, Sylco, Cheoh, Soco-Stecoah, Brasstown-Junaluska, Sylco-Cataska, and Spivey-Santeelah.

The Brookshire series consists of moderately deep, well drained soils on very hilly and very steep uplands. Slope range is 15 to 35 percent. The Cataska series consists of excessively drained upland soils formed in residuum weathered from phyllite and slate. Slope range is 35 to 90 percent. The Citico series consist of, well drained steep soils. Slope range is 15 to 60 percent. The Ditney series consists of moderately deep, well drained, loamy soils. Slope range is 12 to 60 percent. The Jeffrey series consists of well drained, moderately deep soils. Slope range from 35 to 50 percent. The Pope series consists of deep, well drained loamy soils on floodplains and along drainageways on the narrow bottoms. Slope range is 0 to 3 percent. The Ranger series consists of well drained, moderately steep to very steep soils. Slope range is 25 to 75 percent. The Sholocta series consists of well drained, moderately permeable soils on sloping to very strongly sloping uplands. Slope range is 12 to 25 percent. The Shouns series consists of well drained, loamy soils. These soils are on footslopes, and benches. Slope range is 12 to 25 percent. The Spivey series consists of deep, well drained, steep soils in coves and on the lower parts of mountainsides. Slope range is 20 to 60 percent. The Staser series consists of well drained soils on floodplains. Slope range is 0 to 3 percent. The Sylco series consists of well drained, moderately steep soils. Slope range is 20 to 75 percent.

Cheoah soils are usually dark surfaced soils and are the most productive upland soils in this type of geology. These soils are found on north facing slopes, east facing slopes or on areas shaded by higher mountains. Sylco-Cataska soils are some of the poorer soils in the area. They have a high volume of rock fragments and are often associated with rock outcrops. Brasstown-Junaluska soils have fine sandy loam textures and between 18-35 percent clay. Tsali soils, which are less than 20 inches deep, also occur with Junaluska soils that are 20-40 inches in depth. Nantahala soils are found on gentler slopes in the same areas and have greater than 35 percent clay and are greater than 60 inches in depth. They are generally found on both north and south slopes below 3,000 feet elevation and on south facing slopes up to 4,000 feet elevation, and are most common low elevation soils in the meta-sedimentary geology.

Soco-Stecoah soils have fine sandy loam textures and less than 18 percent clay. They are found on the north and east facing slopes below 3,000-3,500 feet elevation. They are found on the south and west facing slopes up to 4,800 feet elevation. They lack dark surface and are not nearly as productive as Cheoah soils or cove soils. Cataska soils, which are less than 20 inches, are found with areas of rock outcrop. Spivey-Santeelah soils have dark surfaces and are the most productive cove soils.

## Effects to Soils

No long-term direct effects to soil resources would occur from the designation or non-designation of these rivers. Resource management activities and other human uses that could involve soil disturbance would be allowed under all alternatives consistent with the recreational designation. Any proposed soil disturbing activities would be subject to current federal, state, local, and national forest regulations regarding erosion control or other protective measures.

Alternative A - Minor soil compaction and movement could occur with increased unregulated visitor use and development of recreational facilities. These effects may not be immediately corrected unless standard design practices are used.

Alternatives B and C - Minor soil compaction and movement could still occur with this alternative. However, the management plan written upon designation would protect the soils from substantial degradation.

## Floodplains, Wetlands, and Riparian Areas

Floodplains are the relatively flat areas along rivers that are periodically inundated during high flow. The 100-year floodplain is the area subject to a one percent or greater chance of flooding in a given year. On all public land and on private land where flood damage prevention ordinances have been enacted, 100-year floodplains require special consideration in management to reduce flood hazards (Executive Order 11988).

Wetlands are areas regularly wet or flooded. The water table stands at or above the land surface for at least part of the year and supports or could support wetland vegetation. Wetlands are protected areas on public and private land.

Riparian areas are transitional areas between aquatic ecosystems and the adjacent terrestrial ecosystems that have distinctive soil characteristics and plant communities. Riparian areas are classified as Management Area 18 on Cherokee and Nantahala National Forest lands. Management activities must protect soil and water resources while maintaining the productivity of the riparian area.

The Hiwassee and Tellico Rivers have narrow floodplains because of the mountainous terrain and steep slopes. For the same reason, there are no extensive wetlands along these rivers, except for small seep areas and areas where smaller tributaries enter the river. The Cherokee and Nantahala - Pisgah National Forest FLRMPs define riparian areas as the zone within approximately 100 feet of the stream.

To regulate activities in floodplains, counties can choose to participate in the National Flood Insurance Program (NFIP). Participating counties adopt ordinances that restrict development in the floodplain and require new structures to have flood proofing. Polk County, Tennessee, the location of the Hiwassee River study segment, participates in NFIP and is developing a flood damage prevention ordinance. Cherokee County, North Carolina, where the upper Tellico is located, is also a participant and has an ordinance in place. Monroe County, Tennessee, is not a participant in NFIP.

## Effects to Floodplains, Wetlands, and Riparian Areas

Alternative A - No designation would occur in this alternative. There would be no immediate effect on floodplains, wetlands, and riparian areas. Federal, State, and Local laws and regulations pertaining to these areas would continue to apply. In particular, flood damage prevention ordinances will be applicable to the Hiwassee River study segment and the upper section of the Tellico River in North Carolina. However, private land in the floodplain of the Tellico River in Tennessee would not be subject to a flood damage prevention ordinance and development in the floodplain would be uncontrolled. If landowners do not apply voluntary BMPs on private lands, wetlands and riparian areas may degrade. National Forest FLRMP standards and guidelines pertaining to floodplains, wetlands, and riparian areas would apply on Forest Service land. Additional facility construction would require the appropriate NEPA documentation and will be evaluated on an individual project basis.

Alternatives B and C - Designation as a recreational river would have no immediate effect on floodplains, wetlands, and riparian areas. In the long term, it would ensure that these areas are protected from impoundment. Presently, TVA has no current plans for projects on these two rivers. The Tennessee Valley is a region of high rainfall and the many dams were built in part to control flooding. Tennessee Valley Authority has eight major dams in the Hiwassee watershed that were specifically designed for flood control or that provide incidental flood control. Tellico Dam on the Little Tennessee River impounds the lower Tellico River several miles downstream of the study segment and provides flood control benefits. Tennessee Valley Authority will continue to adjust water levels in existing reservoirs to control flood problems on private land. There is limited private floodplain land in the study segments.

Long-term enhancement of the conditions and values of these areas will probably occur as the river management plan required for designated recreational rivers is implemented. Impacts to be considered in designing a management plan may include erosion of banks, undesignated trails, parking areas, and access points. If additional designated access and recreation sites in riparian areas are developed, they may have an impact on this area. Planning and operation of these facilities would comply with State, Federal, and local laws and with the FLRMP Standards and Guidelines. Additional facility construction would require appropriate NEPA documentation.

## Minerals

There are no federal oil or gas leases within the study corridor of the Hiwassee River. The mineral rights on 17 acres are outstanding on parts of tract K-979.

There are no federal oil or gas leases within the study corridor of the Tellico River. The mineral rights on 113 acres of tract K-373 are outstanding to a third party.

## Effects to Minerals

Alternative A - Under this alternative, no designation would occur. On federal lands within both river corridors there are no federal oil or gas leases. Non-designation of these rivers would not preclude applications being made for mineral development, but there is little or no potential for development due to the economics of development in these corridors. On the privately owned portions of these river corridors or where mineral rights are outstanding on federal lands, mineral activity could occur. However, there is little potential for development due to the economics of development in these corridors.



Alternative B - Under this alternative the eligible sections of the Tellico would be designated and the Hiwassee would remain under current management. On the Hiwassee corridor, non-designation would not preclude applications being made for mineral development, but there is little or no potential for development due to the economics of development in this corridor. On the privately owned portions of the Hiwassee corridor, mineral activity could occur. However, there is little potential for development due to the economics of development in this corridor.

Designation would allow the federal government the authority under the Wild and Scenic Rivers Act to acquire scenic easements on the Tellico River. Scenic easements would allow the Forest Service to direct management of exploration and production sites in the corridor. There are outstanding mineral rights in the study corridor on the Tellico river. However, there is little potential for development due to the economics of development in this corridor.

Alternative C - Designation would give the federal government the authority under the Wild and Scenic Rivers Act to acquire Scenic easements on the Hiwassee and Tellico Rivers. Information for scenic easements is the same as stated for the Tellico in Alternative B, and will be developed in a river management plan if designation occurs.

## Streamflow

*Hiwassee River* - Apalachia (sic) Dam provides incidental flood control benefits. TVA releases water from the dam into the tunnel that leads to the powerhouse 12 miles downstream. Releases occur almost every day. Periods without water releases are extremely infrequent in a given year. Only 31 hours of zero discharge were scheduled in 1990. Water releases provide power production, flood control, and are timed to benefit boating during the peak recreational season. TVA has been providing for recreational flows since the 1970's. Weekend and holiday peaks of 2400 cubic feet per second (cfs) were scheduled May through Labor Day in 1990 (TVA 1992). TVA coordinates releases from Apalachia Dam with releases from Ocoee #1 Dam to provide a minimum flow for downstream assimilative capacity. Generally, average flow during the summer in the 1990's has ranged from 1000 to 3000 cfs. Table 2A shows discharge data summarized from the early 1970's to 1992. The discharge shown in Table 2A does not include streamflow from tributaries entering the river in the 12 miles of river bed between the dam and the powerhouse. See the "Hydropower Water Supply, and Flood Control" section for further discussion of the Apalachia Dam's management.

**TABLE 2A. MONTHLY DISCHARGE FROM APALACHIA DAM ON HIWASSEE RIVER, 1973-1992.**

Month	Lowest Monthly Mean (cfs)	Highest Monthly Mean (cfs)	Mean Monthly Mean (cfs)
January	1329	5778	2874
February	1264	6876	2822
March	754	5503	2119
April	354	3233	1260
May	344	3456	1634
June	728	4215	1938
July	815	3516	2065
August	733	2880	2122
September	643	2790	2104
October	660	4639	2005
November	992	4097	2166
December	1308	6014	2887

**Tellico River** - The Tellico River is free-flowing within and upstream of the study section. A low concrete sill (6 feet high) is located above the Tellico Hatchery to provide sufficient water supply for the hatchery intake pipes. The hatchery withdraws water from the river, runs it through rearing pools, and discharges it back into the river approximately 600 yards below the intake. The state of Tennessee is planning to replace the 14 inch pipeline with a 16 inch, diameter pipe by 1994. Flow varies seasonally in response to precipitation, with the most precipitation occurring in the winter and spring. Boaters use the river any time after a good rain, including fall and winter. The river can be paddled at about 150 cfs. Average flows for the spring months are range from 208 to 529 cfs (see Table 2B)

**TABLE 2B. MONTHLY FLOW RATES OF TELlico RIVER, TELlico PLAINS, TN, 1925-1982.**

Month	Lowest Monthly Mean (cfs)	Highest Monthly Mean (cfs)	Mean Monthly Mean (cfs)
January	68	1033	439
February	115	972	483
March	206	1039	529
April	161	823	433
May	106	933	289
June	75	559	208
July	61	557	193
August	29	459	148
September	22	486	107
October	28	303	103
November	38	980	187
December	61	973	310

Maximum discharge for period of record: 19,900 cfs, March 16, 1973

### Effects to Streamflow

No effects to streamflow would occur from designation to either or both of these rivers.

## Water Quality

### A. Tennessee Water Quality Regulations

State of Tennessee water quality criteria varies according to the reasonable and necessary uses of a particular river, and when more than one use is listed, the most stringent criteria apply (TDEC 1991). Hiwassee and Tellico Rivers area both listed as having the following uses: 1) domestic water supply; 2) industrial water supply; 3) fish and aquatic life; 4) recreation; 5) irrigation; and 6) livestock watering and wildlife. The sections of these rivers eligible for wild and scenic river designation are also listed as trout streams in the state water quality standards.

The water quality criteria for these two rivers are summarized below with the most stringent criteria listed.

1. Dissolved oxygen: at least 6.0 milligrams per liter (mg/l).
2. pH range: 6.5 to 8.5.
3. Total Dissolved Solids: less than 500 milligrams per liter (mg/l).

4. Temperature: Use should not change temperature more than 3 degrees Celsius (C) from an upstream control point. Maximum temperature should not be greater than 30.5 degrees C. Trout waters should not exceed 20 degrees C.

5. Fecal coliform bacteria: no more than 200 colonies/100 ml as the geometric mean of at least ten samples collected over a period of not more than 30 consecutive days, with individual samples collected at intervals of not less than 12 hours.

6. Several of the water quality criteria are descriptive or narrative. The criteria for 1) hardness, 2) solids, floating materials and deposits, 3) turbidity or color, 4) taste or odor and 5) other pollutants not otherwise listed indicate that these parameters should not be present to the extent that they would affect the associated reasonable and necessary use.

7. Toxic substances: A large number of toxic substances ranging from heavy metals to pesticides have criteria assigned by TDEC.

Point source (i.e., from a pipe) discharges of wastewater are regulated by the state wastewater permit process. Non-point source pollution (such as diffuse runoff from agricultural, forestry and construction activities) is controlled by the use of Best Management Practices (BMPs). BMPs are structures or practices designed to control soil runoff and sedimentation. Use of BMPs is voluntary on private agricultural and forest land, but may be mandatory on some construction projects. BMPs are mandatory on Forest Service lands.

## B. North Carolina Water Quality Regulations

Surface waters in North Carolina are assigned "Best Usages". All surface freshwater receives the "Class C" classification, which includes usage for aquatic life propagation and maintenance, wildlife, secondary recreation, agriculture and other purposes excluding drinking water and food preparation. North Carolina has given the Tellico River the additional classification of wild trout waters (State of North Carolina, 1992). The water quality criteria for Class C wild trout waters are summarized below.

1. Dissolved oxygen: at least 6.0 milligrams per liter (mg/l).

2. pH range: generally 6.0 to 9.0, with exception made for naturally low pH waters.

3. Turbidity: less than 10 NTUs (Nephelometric Turbidity Units).

4. Gases: less than 110 percent saturation.

5. Fecal coliform bacteria: no more than 200 colonies/100 ml as the geometric mean of at least five consecutive samples in a 30 day period, or no more than 400 colonies/100 ml in 20 percent of samples during the same time period.

6. Temperature: Temperature for trout waters should not be increased 0.5 degrees C above natural water temperature due to discharges. Trout waters should never be above 20 degrees C.

7. Water quality criteria are descriptive for 1) waste solids and sludges, 2) oils, deleterious substances, colored and other wastes, and 3) phenolics. These substances should not be present to the extent that they would affect beneficial uses.

8. Radioactive substances and toxins such as heavy metals and pesticides have numerical criteria assigned.



Point source discharges of wastewater are regulated by the state wastewater permit process. State policy addressing non-point pollution varies according to the type of activity. The North Carolina Sediment Pollution Control Act governs ground disturbing activities such as construction. Agriculture is exempt from this act and has voluntary BMPs. Timber activity is exempt from the performance standards of this act if it complies with the state's Forest Practice Guidelines.

### C. Hiwassee Water Quality

According to data from Apalachia Powerhouse, water quality on average is within State of Tennessee standards (Table 3A). Water discharged from the powerhouse is usually cool even in the summer. It is a soft-water stream, which contributes to a low buffering capacity and sometimes low pH values. Previously, during the warmer months, low dissolved oxygen (DO) in the waters discharged from the powerhouse was a problem. Summer DO was known to drop below the 5.0 milligrams per liter criteria. The Apalachia reservoir is deep and steep-sided, which slows water mixing. In the summer, the upper waters warm while the lower waters remain cool. This further interferes with water column mixing and the lower waters drop in oxygen content. TVA is installing structures (hub baffles) that are expected to significantly increase DO in the releases during the summer months. The penstock data shown above may not adequately represent turbidity and fecal coliform bacteria levels in the study segment because the numbers do not reflect impacts from nonpoint sources downstream of the reservoir. Erosion in the Hiwassee watershed between the reservoir and powerhouse significantly increases turbidity in the study segment (Janice Cox, personal communication). There are about 12 miles of riverbed between the reservoir and the powerhouse. Many tributaries enter the river in these 12 miles. This turbidity may come from tributaries that drain farmland or other disturbed ground. Excessive fecal coliform bacteria concentrations were measured during drought conditions in the study segment at Reliance (Cox, 1990). There are no known point source discharges of wastewater to the study segment of the Hiwassee.

**TABLE 3A. WATER QUALITY IN HIWASSEE RIVER AT APALACHIA POWERHOUSE PENSTOCK, RIVER MILE 53.6. DATA FROM 1961 TO 1989. COLLECTED BY TENNESSEE VALLEY AUTHORITY.**

Parameter	Units	Observations	Max.	Mean	Min.
Dissolved Oxygen	mg/l	115	11.9	7.34	3.0
pH	SU	52	7.6	6.49	5.5
Dissolved Solids	mg/l	2	30	20	10
Suspended Solids	mg/l	23	7	3	1
Turbidity	JTU	38	11.0	4.3	1.1
Temperature	C	1090	22.0	13.0	3.0
Fecal Coliform	/100 ml	3	10	10	10
Total Coliform	/100 ml	3	710	243	10
Calcium Hardness	mg/l	40	120	11	5
Conductivity	micromho	8	34	29	25
Total Alkalinity	mg/l	40	16	7	2
Chloride	mg/l	41	8	2	1

#### D. Tellico River Water Quality

The Tellico River is a cold, well oxygenated, soft water stream. The data shown was collected at Tellico Plains, Tennessee, downstream of the study section (Table 3B). According to this data, the river on average meets the standards with the exception of pH. This is probably the result of a combination of factors, including the low buffering capacity of the water, naturally occurring acid-bearing rock, and human activities that have exposed new acidic rock layers to air and water. Exposure of acid-bearing rock at the time of road construction severely impacted the fish and invertebrate communities of two North River tributaries in the 1970's. Due to the widespread occurrence of acid-bearing rock in the Tellico River watershed and the low buffering capacity of the water, acidification may be a concern in construction projects where soil is disturbed.

Turbidity, an indicator of erosion in a watershed, is low according to this data. However, measurements were probably not taken during rainstorms when sediment was moving from the land and being transported down the river. Forest Service personnel on the Tellico Ranger District report the river appears muddy or turbid after storms. Non-point sources of sediment in the upper reaches of the watershed may include recent development on private land, unstable roads (many of which have been recently closed), and OHV trails located in riparian areas. More information on sediment movement in riparian areas is needed.

Only two observations of fecal coliform bacteria are shown in this data. Five other samples of fecal coliform bacteria from the 1970's by TVA and United States Geological Survey (USGS) showed a range of 10-150 colonies/100 ml. This limited sampling of fecal coliform bacteria may not represent the typical summer condition of the river, when private residences are in use and dispersed camping occurs in riparian areas. More information on bacteria is needed. There are no known point source discharges of wastewater to the study segment of the Tellico.

**TABLE 3B. WATER QUALITY IN TELLICO RIVER AT TELLICO PLAINS, RIVER MILE 28.2 DATA FROM 1973 TO 1976. COLLECTED BY TENNESSEE VALLEY AUTHORITY.**

Parameter	Units	Observations	Max.	Mean	Min.
Dissolved Oxygen	mg/l	39	11.7	10.5	6.4
pH	SU	39	7.20	6.56	5.70
Dissolved solids	mg/l	39	50	24	10
Suspended solids	mg/l	30	28	5	1
Turbidity	JTU	27	9.2	2.8	1.0
Temperature	C	41	22.2	11.5	1.1
Fecal Coliform *	/100 ml	2	120	70	20
Calcium Hardness	mg/l	38	13	8	4
Conductivity	micromhos	40	34	23	17
Total Alkalinity	mg/l	39	8	7	3
Chloride	mg/l	40	9	2	1

\*COMPARE to USGS data-4 samples between 1975 and 1976: 1000/100 ml for each sample

## Effects to Water Quality

Alternative A - In general, water quality would be expected to remain fairly stable due to the remote locations of the study segments and the predominance of National Forest lands where BMP use is assured. However, degradation could occur in the vicinity of private lands if landowners do not use effective BMPs for agriculture, forestry or construction activities. In the Hiwassee watershed, this degradation could include sedimentation from pastures and plowed fields, timber harvest operations, and residential construction, as well as fecal coliform bacteria contamination from livestock. In the watershed draining into the Tellico study segment, private land is limited, but residential construction and timber harvest have occurred in recent years and may occur in the future, providing a potential source of sedimentation. In addition, if recreational use of the study segments increases, water quality could degrade in the absence of a river management plan. Increase recreation use could cause sedimentation due to trampling of stream banks, erosion and vegetation trampling on access ramps, roads, and OHV trails, and fecal coliform bacteria contamination from dispersed camping (Tellico) and lack of adequate rest room facilities (Tellico and Hiwassee).

On public land, further NEPA documentation would be required for projects involving earth moving. For example, any future plans for sanitation facilities, access ramps, and roads would have to minimize or avoid effects from acid-bearing rock exposure.

Alternative B - This alternative would designate the Tellico River and allow the Hiwassee to remain under present management. Effects for the Hiwassee would be the same as stated in alternative A.

Present regulations require that forest management maintain or improve water quality. Designation of the Tellico River would not have an immediate effect on water quality. Long term water quality may improve after a specific river management plan is developed and implemented. Visitor use may increase due to national designation, creating the potential for increased stream sedimentation and fecal coliform bacteria contamination from increased use. A monitoring plan and a river management plan will accompany the FLRMP's if the river is designated. Nonpoint source pollution from activities on private lands as well as potential impacts from increased recreation would be minimized by implementation of a monitoring plan and a river management plan. The river management plan would be a means to get land owners and public managers together to discuss and apply BMPs, and thus improve water quality.

Alternative C - This alternative would designate the eligible sections of both the Hiwassee and Tellico Rivers. Effects would be the same as stated for the Tellico River in Alternative B. Designation of the Hiwassee River would provide an additional mechanism to protect and improve water quality. A monitoring plan and river management plan would help minimize nonpoint source pollution from activities on private lands as well as potential impacts from increased recreation. The river management plan would be a means to get land owners and public managers together to discuss and apply BMPs, and thus improve water quality.

## Fish and Wildlife

The Forest Service, with the cooperation of TWRA and the North Carolina Wildlife Resources Commission (NCWRC), manages the habitat on Forest Service lands. There are 33.3 miles of habitat along the study rivers and their corridors. The habitat supports a diverse terrestrial and aquatic fauna of both game and non-game species known to occur in the Southern Blue Ridge region. According to the Cherokee FLRMP, approximately 46 species of amphibians, 30 species of reptiles, 47 species of mammals, 262 species of birds, 135 species of fish, and 11 species of mussels are in the study rivers and their corridors.

All corridors are subject to TWRA and NCWRC hunting and fishing regulations. White-tailed deer, wild turkey, wild boar, ruffed grouse, and gray squirrel are the most popular hunted species; rainbow trout, brook trout, brown trout, smallmouth bass, rock bass, sauger, and catfish are favored in sport fishing.

Both rivers are stocked on a regular basis with trout for a put-and-take fishery. Fish stocking would be permitted to continue on the Hiwassee and Tellico River. The segment of the Hiwassee River from the CSX Railroad near Reliance, Tennessee to Big Bend parking area is designated as a trophy trout fishery. The Tellico River is stocked with trout from the Turkey Creek foot-bridge to the North Carolina/Tennessee state line. Fish habitat improvements would be permitted on the recreational segments provided they do not affect the river's free-flowing characteristic.

## Effects to Fish and Wildlife

Alternative A - The project area is located on the Hiwassee and Tellico Rivers and includes a one-quarter mile section of land on each side of the river. The area encompasses various habitat types ranging from riparian zones to rock outcrops.

Several Management Indicator Species (MIS) were selected from the Cherokee National Forest FLRMP list (p. 5) to analyze the effects of the alternatives on existing wildlife populations. The MIS identified in Table 4. were selected because they represent species that may be found in the different habitats of the project area.

**TABLE 4. MIS HABITAT NEEDS**

MIS	Habitat Needs
Gray squirrel	Late successional upland or cove hardwoods with cavity trees for mast and nesting cover
Pileated woodpecker	Late successional habitat with large diameter cavity trees for nesting
Black-throated green warbler	Large diameter mixed woodlands with some coniferous cover for nesting
Rainbow trout	Clean, clear water primarily found in pools with moderately swift turbulence; substrate is cobble and rubble
Fantail darter	Clean, clear water primarily found in rocky riffles of small to medium size rivers
Warpaint shiner	Clean, clear water primarily found in gravel/rubble riffles and adjacent pools in small to medium rivers

Under the no action alternative, current management on the Hiwassee River will continue. The river has been designated a Tennessee State Scenic River, and is managed cooperatively with the TVA, State of Tennessee and the Cherokee National Forest.

Future development of the rivers and the surrounding areas is uncertain at this time, although recent trends display an increase in use. Any future management of the two river corridors by the Forest Service would be analyzed in a site specific environmental document. There will be no effect to MIS if this alternative is chosen.

Alternative B - The Tellico would be designated and the Hiwassee would remain under current management. A management plan would be written for the Tellico as a part of designation. Habitat management in the area for wildlife and fisheries will continue, therefore there will be no effect on MIS. Current use of the rivers would be allowed, although any activity which may have a detrimental effect to wildlife and fisheries values would not be allowed. Impacts to MIS on the Hiwassee River are the same as under Alternative A.

Alternative C - Both rivers will be designated recreational if this alternative is chosen. A management plan will be written for both rivers as part of the designation plan. Effects to MIS on both Hiwassee and Tellico Rivers will be the same as for Tellico in Alternative B.



## Threatened, Endangered, and Sensitive Species

Several terrestrial and aquatic plant and animal species of special concern are known to exist in the study rivers' corridors. This includes one federally endangered species, and twenty seven forest sensitive species. The designation of these two river segments as recreational will have no effect on federally listed species or forest sensitive species. A detailed list of species, their influence and mitigation plans can be found in the accompanying Biological Assessment and Biological Evaluation (Appendix B and C).

### Effects to Threatened, Endangered, and Sensitive Species

Alternative A - Protection of Threatened, Endangered, and Sensitive (TES) species would remain at present levels and continue to be managed under Cherokee National Forest FLRMP Standards and Guidelines, and appropriate Threatened and Endangered Species protection laws. This alternative allows the possibility of future impoundment, leading to inundation, which would alter the habitat of TES species. However, any future projects would be analyzed in an environmental document. There would be no effect to TES with this alternative.

Alternative B -The effects of non-designation of Hiwassee River is the same as Alternative A. Designation would prevent future impoundment that would change the free-flowing nature and habitat of the river. Species specific monitoring plans would be established and implemented for all federally listed species in the river corridor. In the event that recreational activities are found to impact federal listed species and/or forest sensitive species along any of the corridor, steps would immediately be taken to eliminate the cause of those impacts. Those steps would be worked out promptly and cooperatively with representatives from the Forest Service and USFWS. See Appendices B and C for monitoring plans for TES species. Monitoring may identify opportunities for improvement on TES species habitat. There will be no effect to TES with this alternative.

Alternative C - The effects of designation for the Hiwassee and Tellico would be the same as for the Tellico in Alternative B.

## Vegetation

Vegetation in the Hiwassee and Tellico river corridors is typical of that found in areas of the Southern Blue Ridge and Southern Ridge and Valley Provinces of southeast Tennessee and western North Carolina. Combinations of conifers, oaks, and hickories dominate the forested landscape. Within this forested area are pasture lands, croplands and other openings that provide various kinds of vegetation and habitat.

The conifers associated with these corridors include white pine, loblolly pine, shortleaf pine, Virginia pine, and Hemlock. The hardwood canopy includes several species of oaks, sycamore, hickories, poplar, and river birch. Sugar maple, sweet gum, beech, basswood and ash are also common associates.

There are numerous species in the mid and understory including red maple, flowering dogwood, redbud, sassafras, pawpaw, and magnolia.

Herbaceous vegetation in the corridors is typical of that found in forest community types of the Southern Appalachians. The herbaceous layer is typically diverse, though in some areas is dominated by exotic species.

The corridors are presently managed under the authorities of the Cherokee and Nantahala-Pisgah FLMRPs. The Cherokee Plan designates and manages the corridors as unsuitable for commercial timber production and has a visual objective of retention (Management Area 5). Recent weather events such as a tornado and spring blizzard in 1993 have created numerous openings of downed trees in both river corridors. The Nantahala-Pisgah FLRMP would continue management of the Tellico River corridor in North Carolina under the standards and guidelines for Management Area 1B where lands are managed for timber production and Management Area 2C where lands are deferred for timber production and managed for recreation.

## Effects to Vegetation

Alternative A - The corridors of the Hiwassee River and the Tellico River in Tennessee would remain managed under the guidelines of the Cherokee FLRMP Management Area 5 where corridor is unsuitable for timber production. Management of the Tellico corridor in North Carolina will continue as set forth under the direction of the Nantahala-Pisgah FLRMP for Management Areas 1B and 2C. There would be no decrease in board-foot volume of timber potentially available from Forest Service lands in Management Area 1B. There would be no effect on vegetation management practices on private lands, or to timber management activities currently conducted.

This alternative allows the possibility of future impoundments, leading to inundation, which would impact the vegetation and timber resources.

Alternative B - This alternative allows for the recreational designation of the Tellico River. The Hiwassee River would remain under current management as a State Scenic River.

For the Tellico River, the vegetative management of public and private lands in the corridor would be secondary to the protection and enhancement of the river values. Special emphasis would be placed on the outstanding values. Management guidelines for rivers with recreational classification do not differ significantly from current management guidelines. The major difference would be the additional restrictions placed on the corridor to protect and enhance the river values.

Designation of the Tellico River will influence approximately 900 acres identified as suitable for timber harvest. The potential restrictions placed on timber management activities as a result of designation would lead to an insignificant decrease in timber volume removed from the corridor. Any decrease in volume would be minimal as it relates to the Forest Allowable Sale Quantity (ASQ).

Alternative C - This alternative would designate eligible sections of both the Hiwassee and Tellico Rivers. Effects for both rivers would be the same as expressed in alternative B for the Tellico River.

## Access and Structures

**Hiwassee River** - The TVA and Forest Service property line at Apalachia Powerhouse is the boundary on the eastern end of the study area. The proclamation boundary at Long Island (near Quinn Springs) is the western boundary. The river may be accessed via Forest Development Road (FDR) 108 which begins near Childers Creek and extends approximately 3.4 miles to the Apalachia Powerhouse. This road is locally known as Hood Mountain Road and Hiwassee River Road and parallels the north side of the river. Developed sites along FDR 108 include Childers Creek, Hood Mountain Overlook, Big Bend Parking Area, Pine Thicket Picnic Area, Towee Picnic and Boat Launch, and Powerhouse Boat Launch. This access provides for numerous boating and fishing opportunities.

There is one highway bridge at the Hiwassee River at Reliance (Tellico - Reliance Road) and a railroad trestle that is used by CSX Railroad. The Railroad track is located on the south side of the river from the eastern boundary of the study area to Reliance and the northern side of the river from Reliance to the western boundary.

Forest Development Road (FDR) 27 is found on the north side of the river and State Route 30 parallels the southern shore from U.S. 411 to Reliance. Picnic Areas may be found along State Route 30 at Taylors Island and Hiwassee Picnic Areas.

Forest Development Trails (FDT) are located along the river as well. John Muir National Recreation Trail #152 is located on the north side of the river and extends 19.98 miles from Childers Creek to near the North Carolina state line. Fisherman Trail #167 parallels the river on the south shore and extends 1.4 miles from Quinn Springs parking area to Hiwassee Picnic Area.

Powerline right-of-ways are located on both sides of the river and are under special use permit to Volunteer Electric Cooperative.

Private tracts are located within the corridor and are mostly centered around the Reliance community.

**Tellico River** - The eastern boundary of the Tellico River study area is the Cherokee and Graham county line in North Carolina. The western boundary is located on State Route 165 at the McDaniel Bridge near Tellico Plains, Tennessee.

Forest Development Road 210 parallels the river to the North Carolina state line where it becomes FDR 420. Several vehicular and foot bridges cross the river accessed from FDR 210 in Tennessee. There are four bridges that cross the main channel of the Tellico River in North Carolina, two fords, and numerous crossings at tributaries within the corridor.

The river is a stocked trout stream which enhances the numerous fishing opportunities along the river. The trout used for stocking are reared in the Tellico Hatchery located in the corridor. The Tellico River from the headwaters in North Carolina to the North Carolina/Tennessee state line is classified as wild trout waters.

Camping areas along the river include Spivey Cove Campground accessed by FDR 210F, Davis Branch Campground, Big Oak Cove Campground, and Stateline Campground. Various dispersed camping opportunities are available in the corridor in addition to the above developed areas in Tennessee and nine dispersed sites inventoried in North Carolina.

Dam Creek Picnic Area is also located in the corridor.

Powerline right-of-way extends through the river corridor to access the Tellico Hatchery.

There are tracts of private land located primarily in the Green Cove area with several private parcels intermingled with National Forest lands. The land surrounding and including the uppermost headwaters of the Tellico is privately owned.

## Effects to Access and Structures

Alternative A - Existing roads and improvements in compliance with the respective FLRMP standards and guidelines would be retained. New improvements, roads, and trails would be allowed under the non-designation of these rivers. Privately owned lands in the river corridors would fall under local zoning ordinances for the Tellico River and under the guidelines for State Scenic River management for the Hiwassee River.

Recent trends in Forest Service management indicate a reduction in maintenance dollars for river corridors. If these trends continue, the maintenance of capital improvements beyond that required for public safety may not be a high priority. This may lead to decreased quality of public access and structures. The effect of this alternative may be a decrease in quality of roads accessing the rivers and other public facilities.

Alternatives B and C - Existing roads and improvements would be retained in the non-designated river corridors and in the designated recreational river corridors. Effects to Hiwassee River are the same as those found in Alternative A.

Access and structures, both current and future, for alternatives B and C would have to be consistent with the guidelines for recreational classification of the respective river. These guidelines allow public use areas in close proximity to the river, and allow private communities near the river. New structures are also allowed. Designation would put into effect a management plan to identify needs of the designated corridors. The effects of implementing this alternative are increased protection of the corridor as well as a higher level of management for capital improvements.





### **Recreational Activities**

The Cherokee National Forest is considered an urban forest due to its proximity to larger cities and populations. Within a 250 mile radius of the center of these study areas are large populations and cities such as Atlanta, Georgia; Knoxville and Nashville, Tennessee; and Asheville, North Carolina. In addition, The Cherokee National Forest is a focal point for use by large numbers of urban based groups. National trends indicate that the rate of population growth has slowed. However, these trends also indicate that outdoor recreation opportunities at the urban and local level will be even more important in the future.



The two study rivers offer a wide variety of recreational opportunities. Recreational uses include fishing, canoeing, kayaking, rafting, tubing, and swimming. The rivers attract such recreational activities as bank fishing, hunting, camping, picnicking, nature viewing, and hiking. Most of the designated trail use within the corridors is by hikers, although there are trails within the Tellico River corridor that are designated for horseback and OHV users as well. In addition, a portion of the Bald River Wilderness is located within the one-quarter mile corridor of the Tellico River.

Fishing, canoeing, kayaking, and camping are the most frequent recreational activities concentrated around river access points. The following is a general description of the recreational opportunities that occur on each river segment:

**Hiwassee** - There are presently four permitted outfitters who provide rafts, tubes, and inflatable canoes, as well as shuttle service to the river. There have been three permits issued on this river to provide expertise in guided fishing trips. Special use applications are currently on file at the district office for rappelling and guided wagon rides.

A variety of Class I-III rapids are present on the Hiwassee River which challenge boaters, including canoeists, kayakers and fishermen. The river has opportunities which extend into three seasons for these users. The Hiwassee is suitable for a range of skill levels of boaters from family groups to advanced. Demand on the fishery resource is high and concentrated with one section of this study river being recognized as a trophy trout stream.

Picnic locations are found along the study section at Taylors Island, Hiwassee Picnic Area, TDEC Take-out, Hood Mountain Overlook, Pine Thicket, and Towee Boat Launch and Picnic Area.

Fishermans Trail (FDT) 167 extends from the Quinn Springs fishing access to Hiwassee Picnic Area on the southern shore of the river. Segments of the John Muir National Recreation Trail (FDT) 152 extend from Childers Creek access to the western boundary at the Apalachia Powerhouse. These trails are designated hiking only.

**Tellico** - There are no permitted outfitters on the study sections of this river. Canoeing and kayaking are popular activities when water levels are adequate.

Fishing, hiking and camping are probably the most common activities on this study river. In the upper reaches, native populations of brook trout abound. Off-highway vehicle riding is also a popular activity on the upper section of the study corridor in North Carolina. There are 8.6 miles of OHV trails within the one-quarter mile corridor of the Tellico River which are open to four wheel drive, motorcycle, and OHV use.

Recreation opportunities include campgrounds (State Line, Big Oak Cove, Davis Branch, and Spivey Cove), picnic areas (Dam Creek, Tellico River Roadside, and Bald River Falls), and fishing sites (Oosterneck, Walnut Grove, and Panther Branch).

## Effects to Recreation

Alternative A - Current recreation activities on National Forest lands and private lands would continue. Recreation management on the National Forest lands would be subject to the standards and guidelines of the Cherokee and Nantahala-Pisgah FLRMP. River use over the past several years shows an increase. Unregulated recreational use could cause overcrowding, which would lower the quality of the recreational experience. Free-flowing recreational opportunities could be threatened with the potential for impoundments or other water improvement projects. Cumulative impacts as a result of unregulated recreation will likely affect characteristics of the rivers.

Alternative B - National designation of the Tellico River may cause an increase in public awareness of the river and result in an increase in use. National trends of recreation use around nationally designated rivers shows a gradual increase in use which tapers off after a few years. Visitors would still be able to access designated hunting, fishing, trails, and camping opportunities in the designated river corridor. Designation would provide the means to determine carrying capacity, and to develop appropriate measures to prevent overuse. Monitoring of use and impacts would allow the Forest Service to set up regulatory measures if the carrying capacity, established by the river management plan were exceeded. Access to the river through passage of private lands would remain at the discretion of the individual landowner.

The Hiwassee River would remain under current state management and effects would be the same as in alternative A. The ingress and egress to the river from private lands would remain at the discretion of the individual landowner.

Alternative C - National designation of both the Hiwassee and Tellico River corridors would be the same as stated for the Tellico in alternative B.

## **Navigability and Riparian Rights**

According to the US Army Corps of Engineers' list of navigable rivers in Tennessee, the study section of the Hiwassee River is navigable. Canoeists, rafters, and other floaters use the Hiwassee River extensively during the summer recreation season. Commercial traffic on the Hiwassee includes four rafting outfitters and three guided fishing outfitters.

The study section of the Tellico River is navigable up to RM 37, which is one mile downstream of Bald River Falls (US Army Corps of Engineers, 1986). Kayakers run the Tellico River above Baby Falls, which is 0.5 miles above the confluence with Bald River and 1.5 miles above the official point of navigability. There is no commercial traffic on the study section of the Tellico River.

The "navigable" designation means the public has the right to use the river for boating and other non-consumptive instream activities in the same way it has the right to use a public road. This right is not extended to the river banks. The Forest Service retains authority to regulate the river's use and the National Forest Lands on the banks regardless of its navigability. This jurisdiction may be shared with other State and Federal agencies. On private land, the river banks belong to the landowner and the water belongs to the respective state. In the case of the Hiwassee River, the State of Tennessee has acquired 50-foot easements from private land owners along the State Scenic River section.

## **Effects to Navigability and Riparian Rights**

Alternative A - If the rivers are not designated, impoundments altering the flow of the Hiwassee and Tellico Rivers may be allowed. Riparian rights and ownership would continue as under current management. Existing federal, state, and local regulations relating to stream bank modification would continue to apply on federal and private lands.

Alternatives B and C - There would be no change in the navigability and riparian rights would continue to apply on all lands for stream bank modifications. Designation may eventually lead to increased river use and potential trespass on private lands. Private landowners would still be able to restrict or prohibit access to riverbanks on their land. See the "Effects to Land Ownership and Use" section for further discussion of easements and land purchases.

## **Wild and Scenic Rivers in the Region**

Other federally designated rivers managed under the Wild and Scenic Rivers Act within a 250 mile radius of the Hiwassee and Tellico study corridors as well as rivers managed as Tennessee State Scenic Rivers and rivers with State status in North Carolina are listed below and displayed in Figure 4.

**TABLE 5. WILD AND SCENIC RIVERS IN REGION.**

RIVER	STATUS*	MANAGING AGENCY
New River, South Fork, NC	National	USDA Forest Service
Horsepasture River, NC	National	USDA Forest Service
Chattooga River, NC & GA	National	USDA Forest Service
Obed River, TN	National	National Park Service
Sipsey Fork, West Fork River, AL	National	USDA Forest Service
Rockcastle River	State	Kentucky
Cumberland River**	State/National	Kentucky
Conasauga River	State	Tennessee
Linville River	State	North Carolina
Middle Saluda River	State	South Carolina
French Broad River	State	Tennessee
Hiwassee River	State	Tennessee
Buffalo River	State	Tennessee
Hatchie River	State	Tennessee

\* National = National wild and scenic river designation  
State = State river designation

\*\*Big South Fork of the Cumberland is also designated as a National River and Recreation area, managed by the USDI-Park Service.

Rivers under study for wild and scenic river designation include:

Wilson Creek (NC)	Linville River (NC)
Davidson River (NC)	Mills River System (NC)
East Fork Pigeon River (NC)	Big Snowbird Creek (NC)
Rock Castle (KY)	Rock Creek (KY)
Cumberland (KY)	Marsh Creek (KY)
Station Camp Creek (KY)	Nolichucky River (TN)

## Hydropower, Water Supply, and Flood Control

**Hiwassee River** - The Hiwassee River, with its steep gradient, was considered a good river for dam sites, particularly when engineers were looking for candidate rivers with hydroelectric and water storage potential. There are eight major TVA reservoirs in the Hiwassee River drainage, three of which are located on the main stem of the Hiwassee River. The Chatuge Reservoir is located on the Georgia-North Carolina border, followed by the Hiwassee Reservoir in North Carolina and the Apalachia Reservoir in North Carolina. Nottely Reservoir is located in Georgia some 20 miles above the confluence of the Hiwassee and Nottely Rivers. The four other reservoirs, Blue Ridge and Ocoee Nos. 1, 2, and 3, are on the Ocoee River (called Toccoa River in Georgia). The Ocoee enters the Hiwassee 10 miles below the Forest proclamation boundary and the study section. Approximately forty miles downstream of the study section the Hiwassee River enters the Tennessee River and at the Chickamauga Reservoir at Chattanooga.

The study section of the Hiwassee River lies below the Apalachia Powerhouse, beginning at RM 53.6. Completed in 1943, this dam was constructed to provide flood control, navigational benefits, and power production. The Apalachia Dam lies in the tailwaters created by the Hiwassee Dam and diverts the river's flow into a tunnel down to the Apalachia Powerhouse. Except in extremely dry conditions, the reservoir operates 18 hours a day from June to September. This is possible because of the large watershed and the limited storage capacity of Apalachia Reservoir. TVA makes every effort to provide adequate water flow suitable for recreational boating to the extent that power production is not impacted (Arland Whitlock, TVA Knoxville, personal communication). In addition, the TVA has a formal agreement to provide a minimum flow of 600 cfs at Bowater Southern Paper Company in Calhoun, Tennessee. This is accomplished by coordinating releases at Apalachia Dam and Ocoee #1 Dam.

There are 12 municipalities, 4 industries, and one federally operated fish hatchery (Chattahoochee National Forest) that have water intakes in the Hiwassee Watershed. Five of these are upstream of the study section. The closest intake is the Etowah Utilities water intake which is by the Highway 411 bridge and about 1 mile downstream of the study segment. In 1989, municipal surface water intake in the watershed was 15.28 million gallons per day (mgd) and industrial was 130.8-131.8 mgd and neither municipal treatment plants or industries reported any serious shortages (Cox 1990). Tennessee Valley Authority has no plans for additional impoundments on the Hiwassee River (Gary Brock, TVA Knoxville, personal communication).

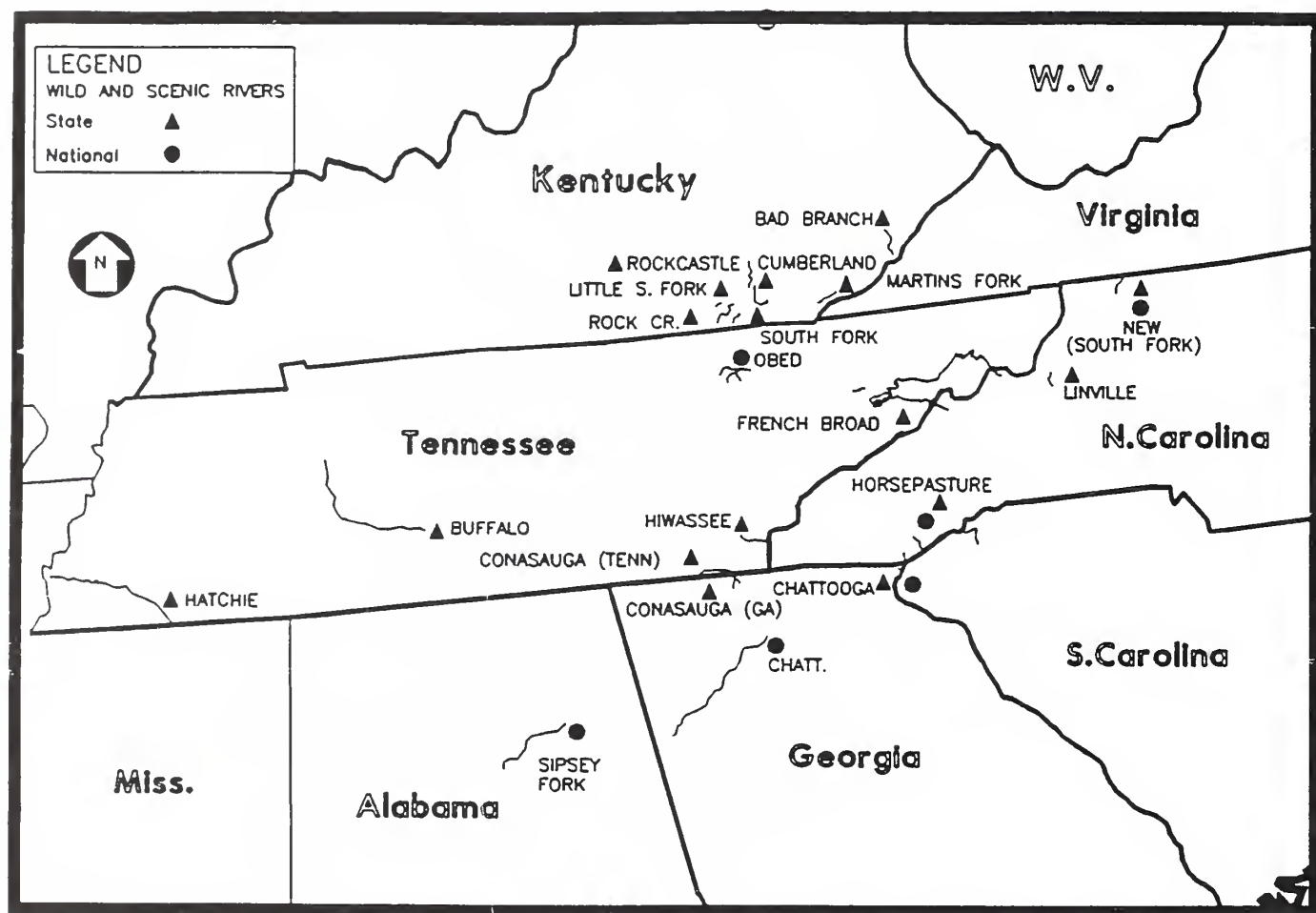


Figure 4. Wild & Scenic Rivers

**Tellico River** - There are no hydropower or flood control dams on the Tellico River. Tellico Dam is on the Little Tennessee River and backs up the Tellico River at the confluence of the Little Tennessee to form Tellico Reservoir. This is several miles downstream of the study section. There are no municipal or industrial water withdrawals on the Tellico River except for the state Tellico Hatchery. Water withdrawn at this site is returned to the river after it runs through the raceways. There is a low sill at the intake pipe to ensure sufficient depth for water withdrawal. Tennessee Valley Authority has no plans for additional impoundments on the Tellico River (Gary Brock, TVA Knoxville, personal communication).



## Effects on Hydropower, Water Supply and Flood Control

Alternative A: This alternative would have no effect on hydropower, water supply and flood control. Local, state and federal laws and regulations would continue to apply. Additional impoundments could be added, although there are no plans for impoundments on the Hiwassee or Tellico Rivers (Gary Brock, TVA Knoxville, personal communication). This alternative does not imply that any impoundments would be approved. The decision to approve or disapprove an impoundment would be the subject of a future project-specific analysis.

Alternatives B and C: No impoundments could be built on the designated sections of the recreational rivers. Presently the TVA has no plans for additional impoundments on Hiwassee or Tellico River (Gary Brock, TVA Knoxville, personal communication).

Designation may have an impact on future water supply needs of the Hiwassee River watershed if water demand increases. Although a reservoir could not be built on the designated segment of the river, reservoirs could be built on other reaches of the Hiwassee River or its tributaries. There has been an increase in population in Murphy and other towns in the Hiwassee River watershed. In 1989, none of the municipalities or industries with working systems reported any serious water shortages (Cox, 1990). In 1993, the towns of Murphy, NC, Andrews, NC, and Blue Ridge, GA reported shortages due to either repairs on reservoirs or recent closure of inadequate facilities. Etowah Utilities is planning to increase the capacity of their water supply plant but does not plan to build a reservoir.

Designation may or may not have an impact on future water supply needs of the Tellico River watershed. Currently, the well water supply is adequate at Tellico Plains and there have been no shortages reported. Reservoirs could be built downstream of the designated segment or in other parts of the watershed after a site specific analysis.

## Land Ownership and Use

Private land use in the study corridors consists of permanent residences, recreational cabins, small woodlots, farming, grazing, use of private land for recreational access to the rivers, and commercial businesses.

A breakdown of the acreage is depicted in the following table:

**Table 6: Number of Landowners, Acreage, and Percent Ownership**

River	# of Pvt Landowners	Private Acres	Percent Private	Federal and State Acres	Percent Fed/State	Total Acres
Hiwassee	43	950	28%	2410	72%	3360
Tellico	49	302	4%	6694	96%	7296

## Effects to Land Ownership and Use

Federal condemnation authority and the perception that the Forest Service can regulate private land uses were identified as a major concern to the private landowners at each of the public meetings. The Forest Service does not have the authority to regulate uses of private property. Forest Service policies, practices, and procedures can only suggest appropriate uses on other than National Forest System lands in the corridors.

United States Department of Interior and the United States Department of Agriculture Interagency Management Guidelines and the Wild and Scenic Rivers Act state that all existing uses and developments at the time of designation will be allowed to continue. The Forest Service has an established set of standards, Forest Service Handbook (FSH) 1909.12, which is to be used as a guide to determine activities that are compatible with wild and scenic river designation. Any activities within these standards are generally considered acceptable. The guiding determination is whether the activities or uses affect the outstanding values of the rivers (Appendix F).

The Wild and Scenic Rivers Act prohibits the Secretaries of Interior and Agriculture from acquiring fee title to private land by condemnation if more than 50 percent of the corridor acreage is owned by federal or state government. However, condemnation is permitted for clearing title and acquiring easements that are reasonably necessary to provide public access to a river or to protect the outstandingly remarkable values of the rivers when they are threatened.

The Forest Service cannot condemn land in fee title on the Hiwassee and Tellico Rivers under Wild and Scenic Rivers Act authority because more than 50 percent is federally owned in each corridor. The Forest Service might, however, purchase land from a willing seller.

Condemnation for easements would only be considered when the rivers outstanding values are impacted or threatened. Private landowners would have the primary responsibility to manage their lands in a way that protects the outstandingly remarkable values of the river corridor. Private landowners would be encouraged to continue present land management uses following the respective state Best Management Practices for current and future uses. Therefore, designation would maintain current land use trends and would maintain present lifestyles.

Designation would place no restrictions on disposal of private lands. Violations of water quality laws by private landowners are presently the responsibility of the TDEC and would remain unchanged.

Designation would not replace the authority of the State of Tennessee to impose regulations on the use of private lands within the authorized boundaries of the Hiwassee State Scenic River. Designation or non-designation would involve continued cooperation of both state and federal agencies in the management of the Hiwassee as a State Scenic River or both rivers as National Wild and Scenic Rivers.

Designation could increase the value of private property and the economic opportunities of the landowners.

Alternative A - There would be no significant effects to private lands resulting from this alternative. All restrictions to development or use of private lands would result from laws or zoning ordinances currently in effect, or developed in the future by county or state governmental bodies empowered with such authority. There could be some increase in trespass on private lands as river use increases.

Federal land use would be affected by removing interim protection for wild and scenic river values and reinstituting standard resource management activities, including timber management and road construction. The development of private land, mainly for agricultural and residential uses, would increase over time. Land ownership in the river corridor would remain in about the same ratio of Federal and private ownership as now exists.

Alternative B - There would be no significant effects to private lands resulting from the implementation of this alternative. Since the Federal government has no authority to regulate or restrict use of private land, all restrictions to development or use of private lands would result from laws or zoning ordinances currently in effect, or developed in the future by county or State governmental bodies empowered with such authority.

Additional management controls by the landowner may be necessary to avoid the potential impacts due to trespass on private lands in the Tellico River corridor for recreational use. Impoundments would not be allowed to change the natural flow of the Tellico River. The Hiwassee would remain under current management as a State Scenic River.

Alternative C - This would designate both of the eligible sections of the Hiwassee and Tellico Rivers as national wild and scenic rivers. Additional management controls may be necessary to avoid potential trespass on private lands in the corridors. No impoundments on these rivers would be allowed if designated.

There would be no significant effects to private lands resulting from this alternative. Since the Federal government has no authority to regulate or restrict use of private land, all restrictions to development or use of private lands would result from laws or zoning ordinances currently in effect, or developed in the future by county or State governmental bodies empowered with such authority. River corridor management issues such as vegetation removal, structures, roads, and debris disposal would have to be dealt with, and some uses or developments determined to have a direct and adverse effect on wild and scenic river values could be restricted or prohibited by agreement of the managing bodies (by management plan produced by Federal, State, county, and possibly citizen coalition groups or councils).

## Visual Resource

The scenic quality of the visual resource in the study corridors is determined by classifying the landscape into different degrees of variety, or variety classes, using the U.S.D.A. Forest Service system detailed in the National Forest Landscape Management Handbook, Volume 1, Agriculture Handbook No. 434. This determines the landscapes that have the most and least important value from the standpoint of scenic quality. Classification of scenic quality is based on the premise that all landscapes have some value. Those with the most variety in terms of landform, rock form, vegetation, and water form have the greatest potential for scenic value.

There are three variety classes that can describe the scenic quality of the natural or near natural landscape: (1) Variety Class A - Distinctive, (2) Variety Class B - Common, and (3) Variety Class C - Minimal.

**Variety Class A river corridors** are characterized by land forms that have slopes over 60 percent, have highly dissected and irregular ridgelines and have deep, narrow valleys with a variety of topographic features. Rock forms such as deep outcrops, arches, or rock shelters are distinctive in size, shape or location. Highly scenic areas have a mixed deciduous-coniferous tree cover with a wide variety of shrub and herbaceous species, creating a high degree of patterns in the vegetation. Large, old trees may be present. Streams are clear and exhibit distinctive characteristics, such as waterfalls, rapids, deep pools, and meanders.

**Variety Class B river corridors** are characterized by moderately varied and slightly dissected terrain with slopes of 30-60 percent. Geologic features are evident, but do not dominate other objects in the area seen. There is moderate diversity in trees, shrubs, and herbs. Rivers and streams have common meandering and flow characteristics.

**Variety Class C river corridors** are characterized by slopes which range from 0-30 percent with very little variety. Geologic features such as rock formations are small to nonexistent. There is very little diversity in vegetation. Streams are predominantly intermittent with little or no fluctuation in flow.

Scenic quality was evaluated within the 1/2-mile wide study corridors based on physical features present in the corridors. The area observed from the water, in many cases, may be less than 1/8 mile on one or both sides of the river due to the steepness of the slope.

Both the Hiwassee and Tellico River study sections fall into Variety Class A.

Current Cherokee National Forest management policy within the river corridors for the Hiwassee and the Tellico does not allow timber management activities, except for salvage, aesthetics, or other management practices that may affect the integrity of the corridors. The current Nantahala-Pisgah FLRMP management policy for the upper Tellico River in North Carolina allows for timber management and emphasis on motorized recreational opportunities. The current management of the upper Tellico in North Carolina designates the corridor north of the river as land not selected for timber production but managed for motorized recreation and the corridor south of the river allows for economically efficient timber harvest. The corridors are managed per current direction until a determination has been made to designate them as national wild and scenic rivers or to leave them managed under the No Action alternative.



Due to the lack of vegetative cover on the Hiwassee River and the width of the river, there are areas that provide glimpses of management practices outside the study corridor on both private and federally owned lands. The Tellico River is more narrow and continuously vegetated; therefore, management practices are less visible.

## Effects to Visual Quality

Alternative A - The current visual characteristics of the federal lands immediately adjacent to the Hiwassee and Tellico Rivers would continue to be protected and enhanced through the standards and guidelines set forth in the Cherokee and Nantahala-Pisgah FLRMPs. The scenic easements purchased on private lands along the Hiwassee corridor would continue to be protected by the Tennessee Scenic Rivers Act.

Visual changes to landscapes on National Forest lands within the river corridors could increase as a result of continued roading and timber management on both federal and private lands. Additional riverbank structures, and perhaps overhead power or telephone lines that could be constructed in the corridors would increase the amount of human influence and induce visible changes.

Alternative B - Visual quality for the Tellico River would be protected under the authority of the Wild and Scenic Rivers Act and the National Forest Plans of the respective Forests. The Hiwassee River would remain protected under the authority of the Tennessee Scenic Rivers Act and the Cherokee National Forest FLRMP. Management activities would not be evident to the casual forest user, nor be a dominant feature of the landscape for the Tellico River as a result of the implementation of a river management plan.

Alternative C - Visual quality in both the Hiwassee and Tellico River corridors would be protected and enhanced under the authority of the Wild and Scenic Rivers Act and the Cherokee and Nantahala-Pisgah FLRMP's. Management activities would not be evident to the casual forest user, nor be a dominant feature of the landscape.

## Cultural and Historical Resources

**Hiwassee River** - The Hiwassee River corridor has been the scene of human habitation for at least the last 12,000 years. For most of this period, it was the land of Native Americans (the name Hiwassee is Cherokee [gua-tsi-li] for "savannah," apparently referring to the flat bottom land which lies beyond the mouth of the Hiwassee gorge). The Indian occupation of the area differed significantly over time. First, (10,000 - 8,000 B.C.) it was marked by Ice Age big game hunters. Later, (8,000 - 800 B.C.) it was occupied by people who lived by hunting and gathering. Finally, (800 B.C. - A.D. 1838) it was settled by Indians whose lifeways centered around agriculture. The evidence of these occupations is richly strewn along the river margins for the length of the river corridor. At several places along the river, stone fish weirs (fish traps) constructed by the Indians are visible in the river at low water.

The land of the corridor remained Cherokee land until they were removed in 1838. Surveys of the Cherokee trail prior to removal (1836) ran from Hiwassee Old Town (the present East Tennessee State Nursery located west of Highway 411) along the north bank up the Hiwassee River. From this point, it crossed to the south side of the river near the mouth of Childers Creek, from which point it wound its way up the Cherokee settlements located in the Copper Basin (i.e., Ducktown, Turtletown, Dogtown, etc.).

After the Cherokee Removal of 1838, the Hiwassee River corridor was quickly settled by Euro-Americans who used it principally for farming. From that time until after the Civil War, this was the principle land use pattern of the area. Indeed, much of the land along the corridor in the area of Reliance, Tennessee is still privately owned and used for that purpose.



After the Civil War a dramatically new land use pattern appeared along the Hiwassee River. During this period, much of the area was purchased by Northern timber companies, principally Conasauga Lumber Company and the Tennessee Timber Company. The effect of this new ownership is reflected by the naming of nearby communities for the owners of these timber companies (Wetmore and Delano). As in almost all other parts of the Southern Appalachians, these timber companies completely logged all merchantable timber in the Hiwassee River drainage. The consequence was an accelerated process of erosion and environmental degradation which was already well-established by widespread poor farming practices, and the practice of seasonally burning forested lands to promote pastures for upland grazing.

Recognizing the serious consequences that these activities held for the environment, the Federal government authorized the acquisition of these lands in 1911 (the Weeks Law). In 1920, the Cherokee National Forest was formally organized.

Since that time, a program of forest management guided by the principles of stewardship and conservation has been carried out. Today, the results of this stewardship program can be enjoyed all along the Hiwassee River corridor.

**Tellico River** - The Tellico River corridor has been the scene of human occupation for at least the last 12,000 years. For much of this time, this land was the domain of Native Americans. The name Tellico [te-li-quo] means "plains" in Cherokee. Native Americans used the land in different ways; first as big game hunters; next as hunters and gatherers; and finally, in the last two millennia, as agriculturists. Sites that exhibit evidence of Indian use of the corridor during these periods literally line the Tellico River. From at least A.D. 1650, the corridor was part of lands claimed by the Cherokee. In 1819, the final boundary for Cherokee lands was established before their removal west. This boundary line divided the river corridor at river mile 34. This produced interesting land-use patterns in the area. Specifically, it permitted early (circa 1820s) Euro-American settlement west of this line, while Cherokee Indians remained in farmsteads east of the line. As a consequence of this, an iron industry was established by Euro-Americans at the mouth of the Tellico River gorge in the early 1820s, while Cherokee Indian settlement persisted in the upper part of the river corridor into North Carolina. Because of this late occupation by the Cherokees, some of their descendants still live in the area today.

Following the Cherokee Removal of 1838, the upper part of the river corridor was opened to Euro-American settlement. Their use of the area took the form of subsistence farmsteads, small-scale timbering operations and the wide-spread, institutionalized "open-range" grazing of livestock. Grazing included not only cattle, but also swine and especially sheep. This "open-range" grazing was accompanied by seasonal burning. The most notable result of these combined activities was the formation of the grassy balds, some of which still remain. Remains of the farmsteads of this period can be found throughout the area of the corridor.

The next significant period of land-use in the Tellico River corridor came after the Civil War. At this time, much of the land in the Southern Appalachians was acquired by northern logging companies. The area of the Tellico River was acquired by the Babcock Timber Company. From the 1890s until the late 1920s, Babcock cut all the timber in the watershed, including the area of the river corridor. Evidence of this logging abounds in the corridor. Splash dams from logging are found at points all along the Tellico River and old railroad logging beds are still visible up the tributaries of the Tellico. In fact, the Tellico River road (FDR 210) is, for the most part, sited on the old Babcock railroad logging bed.

The consequence of this logging was that virtually all of the timber of the entire area inclusive of the Tellico River corridor was harvested, and the entire drainage was subjected to massive soil erosion. These adverse environmental effects, which were occurring throughout the Southern Appalachians during this period, resulted in the passage of the Weeks Law in 1911 and the establishment of the Forest Service in this region in order to rehabilitate and manage the natural resources of the Southern Appalachians. The Tellico River corridor became part of the Cherokee and Nantahala National Forest (1920). The core of the Tellico Ranger District was composed almost entirely of logged over Babcock Lumber Company lands.

A boost to the Forest Service stewardship of the forest came during the Great Depression with the establishment of the Civilian Conservation Corps (CCC - 1933/1942). Evidence of CCC work is found everywhere along the Tellico River corridor. This includes: the Dam Creek Picnic Area, the remains of the old CCC camp at Spivey Cove, as well as numerous stands of pines planted by the CCC and stone and concrete retaining walls installed to control erosion. The feature of the corridor that most obviously marks this era is the Tellico Ranger Station itself. The buildings and the grounds of this complex are of the CCC era. In fact, they constitute significant preserved elements of the first CCC camp constructed in Tennessee, and among the first 50 constructed in the nation. The Forest Service is presently using the complex and is planning to restore and maintain its CCC era character in tribute to its historical significance.

Since the CCC period, Forest Service has continued to manage the resources of the Tellico River corridor with the guiding principle of stewardship. Visitors driving up the Tellico River corridor today see that principle manifested in one of the most beautifully restored river corridors in the Southern Appalachians.

## Effects to Cultural Resources

Alternative A - Cultural resources in the river corridors would continue to be affected by present use. There could be an increase in disturbance of sites from illegal artifact collection in areas of increased dispersed recreation use. Impacts from timber harvest and reforestation activities, and road, trail or recreation facility construction would be allowed on Federal land only after a cultural resources inventory. However, although thorough, cultural resource inventories may not record some sites that would be impacted through disturbance from large-scale land disturbing activities, particularly road construction, borrow operations, or timber harvest and site preparation and planting. This alternative allows the possibility of future impoundments on both the Hiwassee and Tellico Rivers, leading to inundation, which would impact cultural resource sites.

Alternative B - Designation of the Tellico River will lead to additional management controls to avoid impacts of illegally digging in cultural resource sites. This will be addressed in the river management plan upon designation of the Tellico as a Wild and Scenic river. Increased monitoring of the designated river would provide data to guide management decisions in response to and prevention of adverse impacts on cultural resources. The Hiwassee River corridor would continue to be affected by current use as stated in Alternative A .

Alternative C - Designation of both the Hiwassee and Tellico Rivers as national wild and scenic rivers could lead to adverse impacts associated with increased recreational use. A river management plan would be developed to include monitoring as stated in Alternative B for the Tellico designation. This management plan will supplement existing measures in the protection of cultural resources for these river corridors

## Wilderness and Special Interest Areas

The entire study segment of the Hiwassee is presently managed and designated as a Tennessee State Scenic River. It is managed jointly by the Cherokee National Forest and the State of Tennessee Department of Environment and Conservation, Division of Parks. Tennessee Valley Authority has the land surrounding the Apalachia Powerhouse at the easternmost boundary of the study segment reserved for TVA management.

A portion of the Tellico study segment is located within the boundary of the Bald River Wilderness which is managed by the Cherokee National Forest FLRMP.

## Effects to Wilderness and Special Interest Areas

Alternative A - Non-designation of these rivers would have no effect, current management would continue.

Alternative B - Designation of the Tellico study section within the boundaries of the Bald River Wilderness will have no effect on the character and quality of the wilderness values. Management of the congressionally designated wilderness will supersede any subsequent designation of the Tellico as Wild and Scenic River. Designation of the Tellico will strengthen the management for acreage adjacent to Bald River Wilderness. Hiwassee River is same as stated in Alternative A.

Alternative C - Designation of the Hiwassee would enhance current state protection. Designation of the Tellico would have same effect as stated in Alternative B.





## CHAPTER V: LIST OF PREPARERS

**TABLE 7. THE INTERDISCIPLINARY TEAM MEMBERS**

Project	Responsibility	Education
Amy L. Fore, District Planner	Team Leader	B.S. Forest Management Clemson University 9 years experience
Jack Coleman, Forest Recreation Planner	Preparation of report	B.S. Forest Management N.C. State University 29 years experience
Mary Dodson, District Wildlife Biologist	Preparation of report	B.S and M.S. Wildlife and Fisheries Science University of Tennessee, Knoxville; 5 years experience
Gretchen Lugthart, Forest Hydrologist	Preparation of report	B.A. Biology Earlham College M.S. Entomology-Aquatic University of Georgia; 6 years experience
Stephanie Medlin , Zone Fisheries Biologist	Preparation of report	B.S. Wildlife and Fisheries Science, University of Tennessee, Knoxville; M.S. Biology-Fisheries Tenn. Tech. University; 4 years experience
Doug Oliver, District Planning Forester	Preparation of report	B.S. Forest Management Southern Illinois University; 11 years experience
Jenny Williams, Fisheries Biologist	Preparation of report	B.S. Education, MTSU M.S. Biology-Mussels Tenn. Tech. University; 3 years experience
Janice Cox, Environmental Scientist, TVA	Consultant	B.A. Chemistry, M.S. Phycology, University of Arkansas; 15 years experience

Other Cherokee National Forest personnel who contributed to the development of this study are:

Alan Alsobrook	Hiwassee District Ranger
J.R. Anderson	Forest Planner
Quentin Bass	Forest Archaeologist
Martha Brown	Resource Clerk
Larry Fleming	Tellico District Ranger
Cindy King	Cartographic Technician
Terry McDonald	Public Affairs Officer
Mark Pistrang	Forest Botanist/Ecologist
Keith Sandifer	Soils, Water, Air and Planning Staff Officer
Bobby Scott	Forest Soil Scientist
Reese Scull	Recreation Staff Officer
Tony Wilson	Engineering Technician



Other National Forests in North Carolina personnel who contributed to the development of this study are:

Sally Browning	Soil Scientist
Richard Burns	Forest Hydrologist
Linda Jo Ellis	Geologist
Gary Kauffman	Zone Botanist
Melinda McWilliams	Landscape Architect
Charles Miller	Tusquitee District Ranger
Rodney Snedeker	Forest Archeologist
Megan York	Wildlife Biologist

Persons from other areas contributing to this study are:

Bob Allen	State Scenic Rivers Coordinator, Nashville, TN
Joe Carbone	Land Management Planning and Environmental Coordination, USDA Forest Service, Atlanta, GA
Jorge Hersel	Rivers Study Team Leader, Daniel Boone National Forest, Lexington, KY
Charles Huppuch	Rivers Specialist, Southern Region, USDA Forest Service, Atlanta, GA.
James D. Nicholson	Park Manager, Hiwassee River State Recreation Area, Delano, TN

## CHAPTER VI: LIST OF AGENCIES, ORGANIZATIONS, AND INDIVIDUALS RECEIVING THIS REPORT

Copies of this Study Report and DEIS have been sent to, and comments have been requested from, the following people and agencies.

### Individuals:

Allisa Hicks	Charles Price	Jakey Lowe	Sandra Gates
Alma B. Boyer	Denis D. Horn	James M. Smith Sr.	Patsy Crowe
Anita Lee	Christopher Brooks	Jim and Juanita	Robert Broyles
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U.S. Department of Agriculture - Rural  
Electrification Administration, Washington, DC  
U.S. Department of Energy, Washington, DC  
U.S. Department of Interior - U.S. Fish and Wildlife  
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U.S. Department of Interior - National Park Service,  
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U.S. Department of Interior - Great Smoky Mountain  
National Park, Gatlinburg, TN  
U.S. Department of Commerce - National Oceanic  
and Atmospheric Administration, Washington, DC

U.S. Department of Transportation - Federal Highway  
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U.S. Department of Transportation - Advisory  
Council on Historic Preservation, Washington, DC  
U.S. Department of Transportation - Environmental  
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Doug Swayne - Etowah Utilities  
Hoyt Firestone - Polk County Tennessee Executive  
Shane Burris - Monroe County Industrial  
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Ron Banks - McMinn County Tennessee Executive  
Rick Whitehead - Etowah, Tennessee City Manager

Jerry Stephens, Mayor - Benton, TN  
Burke Garwood, Mayor - Etowah, TN  
Cloe Moore, Mayor - Murphy, NC  
Joe Morrow, Mayor - Andrews, NC  
Buddy Vaught, Mayor- Hayesville, NC  
Bob Gibson - Cherokee County NC Commissioner  
Howard Walker - Clay County NC Commissioner

### Libraries:

TN Wesleyan College - Athens, TN  
Hiwassee College - Madisonville, TN  
Cleveland State Community College - Cleveland, TN  
Athens Public Library - Athens, TN  
Etowah Public Library - Etowah, TN  
Cherokee County Library - Murphy, NC

Clay County Library - Hayesville, NC  
Tellico Plains Library - Tellico Plains, TN  
Cherokee County Library - Andrews, NC  
Cleveland Public Library - Cleveland, TN  
Benton Library - Benton, TN



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## **APPENDIX A: WILD & SCENIC RIVER STUDY REPORT**

# **WILD AND SCENIC RIVER STUDY REPORT**

HIWASSEE AND TELLICO RIVERS, TENNESSEE AND NORTH CAROLINA



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# **WILD AND SCENIC RIVER STUDY REPORT**

## **HIWASSEE AND TELLICO RIVERS, TENNESSEE AND NORTH CAROLINA**

### **I. PURPOSE AND NEED FOR STUDY**

The purpose of this Wild and Scenic River Study Report is to document the results of analysis conducted to determine the eligibility, potential classification, and suitability of the Hiwassee and Tellico Rivers as potential components of the National Wild and Scenic Rivers System.

The Nationwide Rivers Inventory (NRI), completed in 1982 by the United States Department of the Interior, National Park Service, originally identified rivers that were free-flowing and possibly eligible for further study as candidates for the National Wild and Scenic Rivers System.

The Cherokee National Forest Final Land and Resource Management Plan (FLRMP) and Final Environmental Impact Statement (FEIS) declared that nine rivers listed in Management Area 5 of the FLRMP would be considered as possible eligible rivers for National Wild and Scenic River status.

Management Area 5 consists of lands and waters with high visual sensitivity and a high degree of public interest. These lands are unsuitable for timber production and include those rivers listed in the Nationwide Rivers Inventory. Originally, segments of the nine rivers were to be studied to determine their eligibility for this study: Conasauga, Doe, French Broad, Hiwassee, Little Tennessee, Nolichucky, Ocoee, Tellico, and Watauga.

The eligibility study, was conducted by the Cherokee National Forest. The Doe, Watauga, and French Broad Rivers corridors were determined to contain mostly private lands. Therefore, the Forest Service requested the State of Tennessee Department of Environment and Conservation be the lead agency for the further study of these segments.

The eligibility study determined the Little Tennessee and Ocoee River segments were not eligible for further study because they were not determined to be free-flowing. Identified segments of the Tellico and Hiwassee Rivers were also excluded from further study because they were not determined to be free-flowing.

Evaluation of the Conasauga River determined which segments were eligible for further study. However, the Cherokee National Forest has waived the opportunity to study this river at the present time and plans to cooperate with the Chattahoochee National Forest to study this river at a later date.

The Nolichucky River has been studied for suitability under its own study document and Environmental Impact Statement and is presently awaiting a review from the Secretary of Agriculture.

The above findings left only segments of two rivers to be studied at the present time. This includes the Tellico River from the TN/NC state line to just above River Mile 30 near Tellico Plains, Tennessee, and the Hiwassee River from the Apalachia Dam to the Forest proclamation boundary. Study segments of these rivers are located in Monroe and Polk Counties, Tennessee.

The FEIS for the Nantahala and Pisgah National Forests Land and Resource Management Plan (April 1987) determined that the Tellico River in North Carolina did not possess any outstandingly remarkable values and, therefore, was not eligible for consideration as a potential national wild and scenic river. This finding was partly based on criteria for outstandingly remarkable fishery values, which included streams classified as Special Native Trout Waters. At that time Tellico River was classed General Trout Waters. This determination was made independently for the North Carolina portion of the river without consideration of river values for the Tennessee portion.

Prior to July 1991, Special Native and Native Trout Waters were North Carolina Wildlife Resources Commission fishery management classifications for Designated Public Mountain Trout Waters with water quality and habitat conditions suitable for and containing self-sustaining wild trout populations. General Trout Waters included all streams not designated as Native or Special Native. It also included both streams stocked with trout and some with self-sustaining populations. Beginning July 1991, the Native and Special Native classifications were combined and changed to Wild Trout Waters. General Trout Waters was changed to Hatchery Supported Waters and most streams with self-sustaining trout populations were removed from this category. Since the North Carolina portion of Tellico River has self-sustaining populations of wild trout and was not being stocked, it was reclassified as Wild Trout Waters.

Subsequent analysis of the eligibility and suitability findings of the 1987 Plan is being conducted in response to the American Rivers, Inc. appeal of the Plan's analysis of potential wild and scenic rivers. New studies have included review and revisions to the eligibility criteria. The criteria for outstandingly remarkable fishery values has been changed to include streams classed as Wild Trout Waters to reflect the changes in the State classification system.

Since Tellico River is currently classed as Wild Trout Waters, it is now eligible according to current North Carolina criteria.

The Hiwassee and Tellico Rivers have been evaluated in a manner that is consistent with the U.S. Department of Interior and U.S. Department of Agriculture jointly issued Final Revised guidelines For Eligibility, Classification, and Management of River Areas. (See 47 Federal Register 34457, September 7, 1982.)

## II. SUMMARY OF FINDINGS

The study segments of the Hiwassee and Tellico Rivers were found to be eligible for further study based on their free-flowing condition and their collective outstandingly remarkable recreational, fish and wildlife, botanical, and historical and cultural values.

The following classifications were determined for each river:

Hiwassee River - Recreational classification from Apalachia Powerhouse to Proclamation Boundary (10.5 miles).

Tellico River - Recreational classification from the headwaters in North Carolina to the McDaniel Bridge near Tellico Plains, Tennessee (22.8 miles).

The Hiwassee and Tellico Rivers are suitable for designation as National Wild and Scenic Rivers. The lengths of the free-flowing condition, Hiwassee (10.5 miles) and Tellico (22.8 miles), and specific characteristics to each river corridor are worthy additions to the national system. Legal protection afforded by designation would foreclose any potential use for municipal water supply, or impoundments. Current land uses and management on the National Forest and private lands appear to be compatible with potential river classifications. Local commitment to protecting the integrity of the river corridors and the rivers themselves is high. The Hiwassee is presently managed and protected as a State Scenic River under the guidelines of the Cherokee FLRMP and the State of Tennessee Department of Environment and Conservation, Division of Parks. The Tellico River is managed under the guidelines of the Cherokee and Nantahala-Pisgah FLRMP.

## III. LOCATION AND DESCRIPTION OF THE STUDY AREAS

The segments of the Hiwassee and Tellico Rivers are located in the Cherokee National Forest in Monroe and Polk Counties, Tennessee and in the Nantahala National Forest in Cherokee County, North Carolina.

The study segment of the Tellico River includes 5.8 miles in North Carolina from the headwaters to the Tennessee state line and 17.0 miles in Tennessee from the state line to near River Mile 30 at the McDaniel Bridge.

The segment of the Hiwassee River to be studied reaches for 10.5 miles from the Apalachia Powerhouse to the Forest proclamation boundary at Long Island (near Quinn Springs).

Both of the study corridors of these rivers are within the proclamation boundaries of the Cherokee and Nantahala National Forests and is one-quarter mile in width from each bank of the river. It totals 10,656 acres.

Refer to Chapter IV, Affected Environment, for a description of the resources within the study corridor.

## IV. FINDINGS OF ELIGIBILITY

To be eligible for designation as a component of the National Wild and Scenic Rivers System, a river must be determined to be free-flowing and possess one or more of the following outstandingly remarkable values: (1) scenic, (2) recreational, (3) geological, (4) fish and wildlife, (5) historic and cultural, or (6) other values including ecological.

The Wild and Scenic Rivers Act defines "free-flowing" as existing or flowing in a natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence of low dams, diversion works, or other minor structures at the time a river is proposed for inclusion in the national system does not automatically disqualify it for designation. A river segment flowing between large impoundments may qualify for designation if conditions within the segment meet the eligibility criteria.

There is no specific requirement concerning the length or flow of an eligible river segment. The length or flow is sufficient if it sustains or complements the outstandingly remarkable values for which the river would be designated to protect.

## CRITERIA FOR OUTSTANDINGLY REMARKABLE VALUES

Definitions of "Outstandingly Remarkable" indicate that such a value would be one that is a conspicuous example of a value from among a number of similar values that are themselves uncommon. On the basis of these definitions, a comparison system for evaluating stream values was developed on the premise that all streams have some value, but when compared to each other, some stream values will be more outstanding. Using the "Variety Class" concept for describing physical features from the Forest Service Visual Management System, the following three categories were developed for comparing values:

Class A - Distinctive Refers to those streams whose features and values are of unusual or outstanding quality when compared to other streams in the area.

Class B - Common Refers to those streams whose features and values are common to most streams in the area.

Class C - Minimal Refers to those streams with few features and values.

A value must meet the criteria for Class A - Distinctive to be considered outstandingly remarkable. Only one value is necessary for eligibility. The following criteria were developed for the three categories for each of the values listed in the Wild and Scenic Rivers Act, Sections 1(b) and 2(b).

### SCENIC

Class A - Distinctive The landform is complex and unusual with a large degree of relief. Rock features are unusual and vary in color, size, and location. Vegetative patterns are natural and vary greatly in pattern and species. Manmade structures are unimposing along the river. Stream aesthetics are pleasing and flow greatly enhances the rivers' characteristics. Water clarity is good and pristine looking. Waterfalls are present or frequent, and imposing in the river corridor.



Class B - Common The terrain has some variety in landform features and slope, but are typical of the Southern Blue Ridge or Ridge and Valley provinces. Rock features are obvious when present, but have no unusual or outstanding features. Vegetative cover is somewhat diverse in pattern, and species diversity is typical of the region. Manmade structures are noticeable but generally not distractive. River aesthetics are average. Flow sustains stream characteristics within the channel. Water clarity is generally good but seasonably turbid. Waterfalls may be present but unimpressive.

Class C - Minimal The landform has little variety in topographic features and relief. Rock features are generally lacking. The vegetative cover is homogeneous with little diversity in pattern or number in species. River aesthetics are poor. River flow is generally low within the channel and detracts from the river characteristics. Water clarity is poor and turbid. Waterfalls are lacking. Manmade structures are distractive within the river corridor.

## RECREATIONAL

Class A - Distinctive Swimming and picnic use is high and concentrated. Demand on the fishery resource is high with concentrated use. Flow and current river management sustains recreational use from three to four seasons. An exceptionally high variety of wildlife or species not usually viewed elsewhere in the Southern Blue Ridge or Ridge and Valley provinces are often viewed within the river corridor. A variety of Class I to VI rapids are present throughout the season of use.

Class B - Common Swimming and picnic use is low and dispersed. Fishery use is low and sparse. Flow sustains the recreational use from one to two seasons. Expected species of wildlife can normally be viewed within the corridor. A variety of Class I through the most difficult Class IV rapids are represented within the normal season of use.

Class C - Minimal Swimming and picnic opportunities are generally undesirable. There is no fishery use. The season of use is sporadic and undependable. Wildlife is seldom seen within the river corridor. A variety of Class I-III rapids are represented during the season of use.

## GEOLOGIC

Class A - Distinctive The river and valley clearly display significant or unusual geomorphic or structural features. It also includes those rivers clearly exposing geologic formations which are visible in few or no other sites. The amount of exposed rock is significant and provides excellent opportunities for geologic study. Caves are present and significant based on the Federal Cave Resources Management Act.

Class B - Common The amount of exposed rock is limited; features and formations are typical of those commonly found in the Appalachian mountains. There is some opportunity for geologic study. Caves may be present but not significant based on the Federal Caves Resource Management Act.

Class C - Minimal The river provides few or no exposed rock formations and no significant geologic features. No caves have been identified.

## FISH AND WILDLIFE

Class A - Distinctive Characteristics of the river have enhanced the variety of faunal species to an exceptional level. There are threatened, endangered, or proposed species present because of the character of the river corridor. The aquatic and terrestrial habitat is unusually unique in kind or quality within the Southern Blue Ridge or Ridge and Valley provinces.

Class B - Common An expected or typical variety of faunal species is present. There are no species unique to the Southern Blue Ridge or Ridge and Valley provinces in the corridor. Terrestrial and aquatic habitat within the corridor is typical of riverine ecosystems in this province.

Class C - Minimal There is an unusually or unexpectedly small variety (diversity) of species present. Generally, only the most tolerant, common species inhabit the corridor. Terrestrial and aquatic habitat within the corridor is modified or degraded and limits the existence of many species.

## HISTORICAL AND CULTURAL

Class A - Distinctive Forest Service Class I sites. Historic sites that are eligible for listing or, are already listed on the National Register of Historic Places. These sites are to be preserved and protected. A number of National Register sites exist within the corridor. These sites present the best opportunity for individual and thematic interpretation.

Class B - Common Forest Service Class II sites. These sites may or may not have potential for nomination to the National Register of Historic Places, but require further investigation. A number of these sites occur along the corridor. They present potential for individual and thematic interpretation.

Class C - Minimal Forest Service Class III sites. Historic sites are determined not eligible for listing in the National Register of Historic Places. These sites are poorly preserved and are not managed by the Forest Service. They present minimal potential for interpretation.

## BOTANICAL

Class A - Distinctive Characteristics of the river have enhanced the variety of plant species to an exceptional level. There are threatened, endangered, or proposed plants present because of the character of the river corridor.

Class B - Common An expected or typical variety of plant species is present. There are no species unique to the Southern Blue Ridge or Ridge and Valley provinces in the corridor.

Class C - Minimal There is an unusually or unexpectedly small variety (diversity) of plant species present. Generally, only the most tolerant, common species inhabit the corridor.

## DESCRIPTION OF VALUES FOR THE HIWASSEE AND TELlico RIVERS

### Scenic:

#### Hiwassee River - Class B, Common

Landform has some variety and relief. Rock features are common with some bluffs present. Vegetative cover consists of pine and hardwood forests. Flow maintains river characteristics although there is daily fluctuation from an impoundment. There are several small rapids within this section. Water clarity is good but sometimes turbid. Manmade structures include private residences and outbuildings, three bridges (one foot, one railroad, and one highway), powerlines and developed recreation areas.

#### Tellico River - Class B, Common

The landform is typical of the Southern Blue Ridge province with some variety and relief. Rock features, such as road cuts, bluffs, and boulders are obvious within the river corridor. Vegetative cover is diverse in pattern with pine and hardwood stands and burn scarred areas. River aesthetics are exceptional at Bald River Falls, Baby Falls, and other cascading waterfall areas. Gradient is steep within this section causing several rapids. Water clarity is good but seasonably turbid. Manmade structures include roads, recreation areas, cabins, and a powerline.

## Recreational:

### Hiwassee River - Class A, Distinctive

This section of the Hiwassee is located in the Southern Blue Ridge province. Swimming and picnic opportunities are moderate. There are developed recreation areas in the corridor. Demand on the fishery resource is high and concentrated with a portion of this section designated a trophy trout stream. Flow and current river management sustains recreational use for three to four seasons. Canoeing, kayaking, and tubing are very popular recreational activities. Expected species of wildlife can normally be viewed within the river corridor. A variety of Class I-III rapids are represented during the season of use.

### Tellico River - Class A, Distinctive

This section of river is located in the Southern Blue Ridge province. Swimming and picnic use is high and concentrated due to the abundance of developed sites in the corridor. This type of use is expected to continue due to the development of the areas found here. Most developed areas are restricted to day use except in those sites where camping is permitted. Demand on the fisheries' resource is high with concentrated use. This section is a stocked trout stream with good access. This broadens the spectrum of users that frequent this stream. The flow sustains the recreational use from one to two seasons. Wildlife viewed is that which is normally seen within a river corridor. A variety of Class I-IV rapids are represented during the normal season of use.

## Geologic:

### Hiwassee River - Class B, Common

This section of the Hiwassee flows through Pre-Cambrian-aged meta-sedimentary rocks of the Great Smoky Mountain Group and a narrow area of Cambrian-aged Shady Dolomite. The river section terminates just past where it has cut through the Starr Mountain Window. This window exposes younger Cambrian-aged rock formations through older Pre-Cambrian-aged formations. This window is at the boundary between the Blue Ridge and Ridge and Valley provinces. This explains the presence of old magnesium and manganese (and possibly zinc) mines. Dolomite is a calcium and magnesium carbonate sedimentary rock. Both manganese and zinc can associate with this formation. According to the Tennessee geologic map, the river section flows across four faults within and between the Cambrian and Pre-Cambrian-aged rocks. While cliffs and other outcrops of Pre-Cambrian rock are located prominently up-river, this section near the west end is clearly the most interesting geologically. However, similar windows are exposed in many places in both Tennessee and North Carolina, although this is the most westerly exposure. Large portions of both the north and south segments of Starr Mountain lie out of the corridor and dense vegetation and soils makes the formations difficult to see.

### Tellico River - Class B, Common

The river flows through Pre-Cambrian rocks of the Great Smoky Mountains Group. These rocks are meta-conglomerates, meta-sandstones, and slates and are part of the larger sequence known as the Ocoee Supergroup that make up a large section of the southern Appalachian Blue Ridge province. The river is an incisive "V" shape. Several large sections of cliffs have been formed by the river. Since the river flows nearly perpendicular to the strike and opposite of the dip, excellent structures are exposed. One area appears to have the original sedimentary bedding and cross-bedding exposed.

Two caves are exposed in the river. They appear to have been formed by physical processes and are not geologically distinctive. The Tellico is fed by streams high into the watershed. Scenic falls are seen on Bald River near the confluence with the Tellico. Rapids are formed by bedrock and boulders form Class III, IV, and V rapids.

Fortunately, the access to State Line Campground provides study opportunities of the formations, as it would be difficult to study from the river. The features exposed are not unique, but are not common either. The river has nearly perpendicular to strike orientation which makes the best exposure of structures. However, there are enough other areas that are crossed by roads and water that does not make distinctive a proper classification.

#### Fish and Wildlife:

##### Hiwassee River - Class A, Distinctive.

The diversity of aquatic fauna is exceptional. This section provides habitat for fish species typical of both cold and warm waters, fluctuating with the water releases from the Apalachia Powerhouse. There is potential for rare mussels within this section. At the time of the eligibility study, there was one federal candidate species present (yellow-blossom pearly mussel). State listed species present include the American osprey, tangerine darter, and slabsided pearly mussel. In addition, the blotchside darter has been added as a state listed species. This section is a significant trophy trout section, although it is a put-and-take fishery stocked with non-native trout. This section does not support a native trout population. Habitat quality is exceptional.

##### Tellico River - Class A, Distinctive

The river supports a typical diversity of terrestrial and aquatic fauna that is comparable to similar streams. State listed species include: tangerine darter, blotchside darter, masked shrew, smokey shrew, southern water shrew, and Woodland jumping mouse. The headwater streams of the Tellico in North Carolina support native brook trout. Further downstream, rainbow trout are stocked to meet the angling pressure of the Tellico River.

#### Historical and Cultural:

##### Hiwassee River - Class B, Common

Two significant cultural resource complexes are located along the Hiwassee River corridor. The first of these sites is associated with the railroad that connects the Valley of Tennessee with Copperhill, Tennessee (circa 1885). Sites associated with this complex and eligible for inclusion in the NHRP include the Higdon Hotel and the Switchman's House located at Reliance, Tennessee and an iron mining area located at the mouth of Gee Creek (stamping mill foundations, concrete flume remains, and housing and loading dock remains), located at Austral, Tennessee.

##### Tellico River - Class A, Distinctive

The Tellico River retains the broadest range of known cultural resources of the rivers considered here. Beginning at the Tennessee/North Carolina state line, these include: numerous logging camps, splash dams, bridges and shay railroad grades (the Tellico River Road being located on an old railroad bed) associated with late 19th/early 20th century logging operations (Babcock Lumber Co.) in the upper Tellico River drainage; significant sites relating to civilian Conservation Corps activities (e.g., the Tellico Ranger Station, CCC camp remains at Spivey Cove, Dam Creek Picnic Area, numerous examples of rock retaining walls and roadwork); and sites relating to the early iron industry (the furnace road and associated mining fields, the furnacemaster's house - the Mansion - located at the mouth of the gorge).



## Botanical:

### Hiwassee River - Class A, Distinctive

Plant species diversity is typical or expected. One federally listed candidate species found in the corridor is golden saxifrage. State listed species are also located in the corridor and include: bittercress and lake quillwort. Several other state listed species have been found since the eligibility study.

### Tellico River - Class A, Distinctive

Plant species diversity is typical or expected. The eligibility study lists Southern lobelia, a state listed species, as being present. Other species have been found since that time.

## V. POTENTIAL CLASSIFICATION

If a river has been determined to be eligible for designation, it is necessary to determine the potential classification that would result from the designation.

There are three classifications of rivers, or river segments, in the National Wild and Scenic Rivers. They are wild, scenic, and recreational. Classification is based on the condition of the river and the adjacent lands at the time of the study. The following criteria for determining classification is from the revised guidelines.

**Wild River** - The river should be free from impoundments. The shoreline should be essentially primitive with little or no evidence of human activity; however, the presence of a few inconspicuous structures is acceptable. There should be little or no evidence of past timber harvest and none ongoing at the time of the study. The river should be generally inaccessible except by trail. There should be no roads, railroads, or other provision for vehicular access; however, a few existing roads leading to the boundary of the river area is acceptable. Water quality meets or exceeds criteria of federally approved state standards for aesthetics, propagation of fish and wildlife normally adapted to the river, and primary contact recreational activities.

**Scenic River** - The river should be free of impoundments. The shoreline should be largely primitive and undeveloped with no substantial evidence of human activity; however, the presence of small communities, dispersed dwellings or farm structures is acceptable. Evidence of past or ongoing timber harvest is acceptable if the forest appears natural from the river bank. The river may be accessible in places by roads and roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads or railroads is acceptable. No criteria for water quality is prescribed in the Act. Poor water quality does not preclude classification provided a water quality improvement plan exists or is being developed.

**Recreational River** - The river may have some development with substantial evidence of human activity. The presence of extensive residential developments and a few commercial structures is acceptable. Lands may have been developed for a full range of agricultural or forestry uses and may show evidence of past or ongoing timber harvest. The river area may be readily accessible by roads or railroads. The existence of parallel roads or railroads on one or both banks and bridge crossings is acceptable. No criteria for water quality is prescribed in the Act. Poor water quality does not preclude classification provided a water quality improvement plan exists or is being developed.

## POTENTIAL CLASSIFICATION

The Hiwassee and Tellico Rivers qualify for the following classifications:

Hiwassee River - Recreational classification assigned for 10.5 miles from the Apalachia Powerhouse to the proclamation boundary at Long Island (near Quinn Springs).

Tellico River - Recreational classification for 22.8 miles from the headwaters in North Carolina to the McDaniel Bridge (near Tellico Plains, Tennessee).

## VI. FINDINGS OF SUITABILITY

If a river has been determined to be eligible for designation, it is then necessary to determine suitability. The following discusses the factors considered regarding the suitability or non-suitability of eligible sections of the Hiwassee and Tellico Rivers in the National Wild and Scenic Rivers System.

### SUITABILITY FACTORS

Factors that are considered in determining a river's suitability include the following: (1) characteristics which do or do not make the area a worthy addition to the National System; (2) need for legal protection afforded by the Wild and Scenic Rivers Act; (3) land and water uses and values enhanced, forgone, or curtailed if the river is designated; (4) public and state and local government interest in designation; (5) cost of administration of the area should it be added to the system; and (6) the amount of private land involved, uses of the land.

### SUITABILITY FACTORS FOR THE HIWASSEE AND TELlico RIVER SEGMENTS

Characteristics Worthy of Addition to the National Rivers System: The diversity of outstandingly remarkable values (recreational, fish and wildlife, botanical, historical, and cultural) throughout the Hiwassee and Tellico River corridors creates a unique environment with local and regional significance.

The Hiwassee River is presently listed as a State Scenic River. A unique feature is the upper reaches which is influenced by the Hiwassee Dam and the Apalachia Powerhouse. Tennessee Valley Authority controls the releases of the water. Consequently, the water level fluctuation influences recreational activities; such as canoeing, tubing, kayaking (Class I-III rapids), picnicking, swimming, and fishing. In addition, this section of the river contains the trophy trout stream reach which provides a catch-and-release fishery, as well as a put-and-take fishery. This river and corridor contain one federally listed species, yellow-blossom pearly mussel. There are other species in the area presently listed as candidates for federal and state protection. These include American osprey, bittercress; lake quillwort, and slabsided pearly mussel. In addition, there is the potential for other rare mussels. From a historical perspective, an iron-mining area was located near Gee Creek, in the community Austral.

The Tellico River and its corridor contain exceptional diversity which lends for a distinctive rating in outstandingly remarkable values. A unique physiographic feature of the river is the perpendicular stream flow to the road and rock formations. The river is defined as an incisive river with "V" shaped thereby exposing cliffs and two caves. Cultural points of interest include the Civilian Conservation Corps (CCC) constructions (Tellico Ranger Station, Spivey Cove, and Dam Creek Picnic Area). Also visible are old bridges and railroad grades (which combined to form Tellico River Road, FDR 210). In addition, evidence of numerous splash dams and old logging camps are found throughout the corridor. Numerous recreational opportunities are available throughout this section include camping (developed and dispersed), swimming, picnicking, Bald River Falls, Baby Falls, Class I-IV rapids for canoeing and kayaking, and fishing. Within the stocked section of Tellico River, there is a high demand on the fishery resource. This section is primarily a put-and-take fishery; however, recent fisheries' surveys indicate that wild trout are present. The headwater streams of Tellico River in North Carolina do contain native brook trout populations. This river and corridor contain several state listed species including southern water shrew, smokey shrew, woodland jumping mouse, masked shrew, tangerine darter, blotchside darter, and southern lobelia.

Need for Legal Protection Afforded By Designation: A primary objective of the Wild and Scenic Rivers Act is to preserve the free-flowing condition of certain selected rivers of the Nation. The Act prohibits water resources projects (dam, water conduit, reservoir, powerhouse, transmission line, etc.) that would have a direct and adverse effect on the river's free-flowing condition or on the values for which such a river was designated.

The Hiwassee River is currently used as a municipal water supply for the cities of Etowah and Benton, Tennessee. Although there are no proposals to develop this water supply now, it is reasonable to assume that it would be considered for development in the future as the demand for drinking water in the surrounding counties increases.

Any future dam proposals for municipal water supply will likely be met with opposition from the local communities.

It is unlikely that there would be proposals for hydropower or flood control impoundments in this section of the river.

The Tellico River at this time has no proposals for any future hydrological developments.

Historical and cultural sites, artifacts, and threatened and endangered species are protected by law. Legal protection afforded by Wild and Scenic designation is not necessary for perpetuation of these resources, but could enhance it. There is a likelihood the increase in visitation could initially prove to be detrimental.

Forest Plan objectives are to perpetuate riparian area, floodplains, wetlands and their ecosystems in their natural condition. However, the Forest Plans do not provide legal protection from water resources projects proposed under the Federal Powers Act that have the potential to alter the free-flowing condition of streams.

Uses of Values Enhanced, Foreclosed, or Curtailed by Designation: The following discusses the uses and values that would be enhanced, foreclosed, curtailed, or not changed by the designation on **National Forest lands** within the study corridor. These changes are based on the potential recreational classification for study segments of the Hiwassee and Tellico Rivers.

**Enhanced** - Designation may enhance the recreational experience for some visitors. The permanence afforded by legal designation is desirable to many people. Although, the outstandingly remarkable values are currently protected by the Forest Plans and federal laws where applicable, designation provides a sense of permanence and a consistent direction for these resources.

The Hiwassee River is presently designated and managed as a State Scenic River and a National designation would only serve to enhance its present protection.

**Foreclosed** - Designation would prohibit any new water resources projects that would adversely affect the free-flowing condition of the river or the values for which the river was designated. Current use for municipal water supply on the Hiwassee and Tellico would continue. However, there would no longer be an alternative for expanded future water supply. There are other viable alternatives that exist to serve the future water supplies for the area.

**Curtailed** - Recreation development, special use permits, road construction, trail construction, and timber harvest would be examined on a case by case basis. New mining leases or claims may be curtailed to protect the river resources. However, there are no active mineral operations and a low potential for commercially significant mineral deposits.

**No Change** - The type of recreation activities permitted and wildlife habitat management activities would remain essentially the same under designation or non-designation of these river segments. Proposed, Endangered, Threatened, and Sensitive (PETS) species are protected by the respective Forest Plans and federal laws for Federally listed species. Historical and archaeological sites are protected by state and federal laws as well as the respective Forest Plans.



The following discusses the uses and values that would be enhanced, foreclosed, curtailed, or not changed by designation on privately owned lands within the corridor. The effects are based on the potential recreational classification.

**Enhanced** - The notoriety of designation and some measure of protection from future incompatible land uses and development could have a positive impact on property values and marketability.

**Foreclosed** - Major water resources projects such as dams and reservoirs would be prohibited. Development of small water resources projects such as diversions for small farm pond water supply are subject to federal water regulations or assistance (such as Corps of Engineers dredge and fill permits) and could be prohibited. Determination would be made on a case by case basis.

**Curtailed** - Any local government or state land use ordinances enacted to protect the river values could limit the type or amount of land uses and developments allowed. An example is the Hiwassee State Scenic River Management Plan presently enforced. Otherwise, current land use would prevail. The amount of land within the river corridor that could be purchased by the federal government for river protection is limited to 100 acres per mile. In addition, since over 50 percent of the river corridor is presently in federal ownership, condemnation could not be used to acquire fee title of lands needed for river protection. Scenic easements could be purchased or condemned to protect the outstanding values of the river if necessary.

**No Change** - The ability to buy and sell property is not affected by designation. Property owners retain the rights to buy and sell their property. Designation does not provide for public access or use of private lands. Ongoing regular uses of private lands including agriculture, forestry, and residential uses would continue. Some uses may be removed if they are not in compliance with the river designation. Condemnation could be used to clear property titles for acquisition.

**Public, State and Local Government Interest:** The Hiwassee River is currently managed as a State Scenic River by the Tennessee Department of Environment and Conservation. Local public sentiment during the scoping process was in favor of leaving the river under present management by the state. This management includes cooperation with the Cherokee National Forest, Tennessee Wildlife Resources Agency, and Tennessee Valley Authority.

The Tellico River is currently managed under the direction in the Cherokee and Nantahala-Pisgah Land and Resource Management Plans.

**Cost to Administer Designated Rivers:** Current average annual costs to administer the Hiwassee and Tellico Rivers on National Forest lands are \$105,000. Costs to administer the rivers on National Forest lands would remain essentially the same as current management, unless recreation uses were to increase significantly as a result of the designation. The estimated cost for adequate staffing to administer the increased recreation use is \$50,000. The initial cost for signing the river is estimated at \$10,000. Annual administrative costs would need to include funds for sign repair and replacement. The administrative cost of working with the state and local governments and private landowners to develop land use guidelines for the privately owned lands along the rivers would be approximately \$10,000 annually for the first five years. After that time, the costs are expected to be minimal. State and local governments would be responsible for administering any land use ordinances on private lands. The federal government would work closely on the Hiwassee River if designated due to the present management and administration by the state as a State Scenic River.

**Private Land:** Approximately 28 percent of the land within the Hiwassee river corridor is privately owned. Tellico River has 4 percent private ownership in the corridor. Agriculture is the predominant use intermingled with forest lands and low density residential land. These uses are compatible with the potential recreational classification. The potential for local zoning ordinances to protect river values is possible on both the Tellico and Hiwassee Rivers. There is no public access through private lands in these river corridors except where state road right-of-ways and railroad right-of-ways touch the shoreline. Since designation does not open privately owned lands to access, any offenses would be considered trespassing on private property. At the present time, it appears that the public access available on public lands is adequate and should not result in easements to increase the number of access points.



## FINDINGS OF SUITABILITY

The study segments of the Hiwassee and Tellico Rivers are determined to be suitable for designation as National Wild and Scenic Rivers. The lengths of the segments are determined to be in a free-flowing condition and their characteristics are worthy of designation and protection. Legal protection afforded by designation is desirable since there may be the threat of future plans for impoundment. Designation would foreclose any potential use of the rivers for municipal water supply, but viable alternatives are available in both the areas of the Hiwassee River and the Tellico River. Current land uses and management on National Forest and private lands are compatible with potential river classifications, so uses foreclosed or curtailed would be minor. Increase in the cost to administer these rivers if designated would not be significant unless there is a dramatic increase in use as a result of designation.

Local commitment to the protection of the integrity of the Hiwassee study corridor is strong as evident through compliance with Tennessee Scenic Rivers Act. Therefore, the need to acquire those lands in private ownership for the area to be effectively administered as a National Wild and Scenic River is low. Evidence that state and local governments are supportive of the designation has been expressed throughout the study process.

Local commitment for the protection of the Tellico River study segment is strong, although there is a varied degree to the type of protection necessary. The need to acquire land in order to administer the river as a National Wild and Scenic River is low. This is due to the minimal amount of private ownership in the study corridor. Both state and local governments have participated in the study process.

## **APPENDIX B: BIOLOGICAL ASSESSMENT**

## APPENDIX B

United States  
Department of  
Agriculture

Forest Service   Cherokee National Forest

Ocoee Ranger District

Reply To: 2670

Date: October 22, 1993

Subject: Biological Assessment for Wild and Scenic Rivers Designation  
Hiwassee and Tellico Rivers

To: Forest Supervisor

In compliance with Section 7 of the Endangered Species Act of 1973, a biological assessment for the above project has been conducted and is attached to this memo.

/s/ Mary M. Dodson

Wildlife Biologist

cc: J. Herrig

BIOLOGICAL ASSESSMENT

USDA FOREST SERVICE, SOUTHERN REGION

WILD AND SCENIC RIVERS DESIGNATION HIWASSEE AND TELLICO RIVERS

## INTRODUCTION

The project under consideration is the proposed recreational designation of certain segments of the Hiwassee and Tellico Rivers as part of the National Wild and Scenic Rivers System. The segments being considered are on the Hiwassee, Tellico, and Tusquitee Ranger Districts within the Cherokee National Forest and the Nantahala National Forest. For each of these segments, a corridor of adjacent lands extending approximately one quarter-mile on each side of the river will be included under the designation.

The segments under consideration for designation include:

Hiwassee River (10.5 miles extending from Apalachia Powerhouse to the Proclamation Boundary)

Tellico River (22.8 miles extending from the headwaters in North Carolina to the McDaniel Bridge near Tellico Plains, Tennessee)

The purpose of this biological assessment (BA) is to document any potential effects of including the Hiwassee and Tellico Rivers in the National Wild and Scenic Rivers System on proposed, endangered, and threatened species or their habitat, and to ensure land management decisions are made with the benefit of such knowledge. The objectives of this evaluation are to:

1. Ensure Forest Service actions do not contribute to a loss of viability of any plant or animal species or cause a trend toward federal listing of any species.
2. Comply with the requirements of the Endangered Species Act that actions by federal agencies not jeopardize or adversely modify critical habitat of federally listed species.
3. Provide a process and a standard by which proposed, endangered, and threatened species receive full consideration in the decision-making process.

Information was collected on wildlife, fisheries, botany, and mussels from the following sources: field surveys, project area habitat conditions, species habitat requirements, species distributions, limiting factors, status listing, and Proposed Endangered Threatened and Sensitive (PETS) species list from the Cherokee National Forest and the Nantahala National Forest. The U. S. Fish and Wildlife Service (USFWS) was informally consulted for additional species (Jim Widlack personal communication). Species potentially affected by actions in the project area were evaluated. A total of 27 species were evaluated for this study. One species is listed as federally endangered, yellow-blossum pearly mussel, and will be evaluated in this document. The remaining species are listed by the states of Tennessee and/or North Carolina and will be discussed in a Biological Evaluation (BE).

## PROPOSED ACTION AND AFFECTED AREA

The proposed action is to determine if the Hiwassee and Tellico Rivers should be designated as part of the National Wild and Scenic Rivers System.



The affected area includes the two river segments which are listed in the introduction to this BA along with a corridor of land extending about a quarter-mile on each side of the rivers.

Information currently available concerning occupied habitat for listed PETS species along the corridors is from two sources. One source consists of a series of point locations for various species occurrences plotted on Forest PETS Maps. The second source is findings from botanical surveys done for both river segments.

**FEDERALLY LISTED SPECIES.** Remarks concerning the federally listed species known to occur in the proposed corridors are contained in this BA.

**FOREST SENSITIVE SPECIES.** Forest sensitive species known to occur along the proposed corridors are contained in the accompanying BE.

## STATUS OF SPECIES AND HABITAT IN PROJECT AREA

Vegetative communities within the quarter-mile study area vary by aspect and elevation. Elevation ranges from approximately 700 to 1400 feet. The following community types have been identified on the Hiwassee River portion of the study area: riparian/bottomland forest, mesic slope/ravine forest, oak forest, pine-oak forest, pine forest, rock outcrops, and alluvial wetlands (Dellinger 1993). The Tellico River portion contains similar communities with some variation due to elevation (John Churchill personal communication).

The riparian/bottomland forest occurs along nearly the entire length of the Hiwassee River segment. The canopy in this forest community is composed primarily of river birch, yellow-poplar, red maple, sweetgum, and American sycamore. Common species in the midstory include ironwood, pawpaw, silverbell, and climbing hydrangea, as well as saplings of the canopy species. Common species in the herbaceous layer include smartweed, coneflower, flatseed sunflower, and several species of grasses. Diversity is high, although in some areas exotics have replaced many of the native species.

In steeper sections of the Hiwassee River gorge and on north and east facing slopes, the community has been classified as mesic slope/ravine forest. The canopy in this forest type is diverse. Yellow-poplar, basswood, American beech, and yellow buckeye are the most widespread canopy species, while red oak and Eastern hemlock are common locally. The midstory is composed of several species of trees, shrubs, and vines. The most prevalent are flowering dogwood, silverbell, and climbing hydrangea. Herbaceous plants are abundant and include a wide variety of species. The most common include several species of asters, goldenrods, dwarf iris, maidenhair fern, and false solomon's seal.

Oak forests occur on moist slopes in the Hiwassee River study area. The canopy is made up of a diversity of species, including white oak, Northern red oak, red maple, chestnut oak, hickory, black oak, and scarlet oak. Flowering dogwood is the most common midstory species. The herbaceous layer is dense and composed of several aster species, beggars lice, and goldenrod species.

Pine-oak forests occupy many upper slopes of the study area. Virginia pine, white oak, hickory, and chestnut oak are the most common canopy species. Sourwood and flowering dogwood are frequently found in the midstory layer. The herbaceous vegetation is diverse although not abundant. Some of the more common species include a variety of asters, tickseed sunflower, and flowering spurge.

In pine forests, located on dry ridges, Virginia pine is the dominant canopy species. Oaks and hickories occasionally appear in the canopy. Sourwood, red maple, and sparkleberry are common midstory species. The herbaceous layer is sparse with little diversity and includes little bluestem, tickseed sunflower, and flowering spurge.

Rock outcrops are scattered throughout the steeper areas, primarily on the north slope of the upper Hiwassee River gorge and the south slope of Chestnut Mountain. Little vegetation occurs on the rocks themselves, however, Virginia pine and eastern redcedar are the common tree species found in these areas. Vines such as Virginia creeper and crossvine are also common in some areas. Herbaceous plants are sparse and represented most commonly by little bluestem and goldenrod in the upper gorge.

Two small areas of alluvial wetlands have been identified in the Hiwassee River corridor. River birch and yellow-poplar can be found around the edges of the wetlands. The dominant vegetation form is herbaceous and is represented by sedges, tearthumb, and wapato.

The following table identifies federally listed species found on occurrence maps of the area.

CLASS/FAMILY	SCIENTIFIC NAME	COMMON NAME	FED	TN	NC
Bivalve	Epioblasma floretina floretina	Yellow-blossum pearly mussel	E	E	~

Abbreviations used:

<b>FED = Federal status</b>	<b>TENN = Tenn. status</b>	<b>NC = North Carolina status</b>
E Endangered	E Endangered	~ Not listed

## POTENTIAL EFFECTS

Regardless of whether or not these proposed stream segments are designated, any activity that is planned, carried out, funded, or permitted by the Forest Service on federal lands within any of the proposed corridors will require the preparation of a separate BE. This will ensure that impacts to all PETS species are evaluated and minimized before any such activities are carried out on the ground. It will also ensure that thorough searches will be conducted for rare wildlife, fisheries, mussels, and plants, including all of the listed species dealt with here, prior to the initiation of any activities that might affect local populations of rare species.

The designation of these two river segments as recreational would remove the ever present threat of impoundment from these areas and would thus allow for the long term maintenance of the free-flowing aquatic and riparian habitats upon which most of these species depend for survival. This may be viewed as a significant beneficial impact for each of these species.

The Forest Service has determined that the designation of river segments as recreational will nearly always result in an immediate (perhaps light) increase in human visitation to each designated segment. This increase in visitation will carry with it an increased risk of impact to rare species on the part of the visitors. Especially vulnerable are those species which occur in fragile or uncommon habitats likely to be used by people engaged in river-leased recreation activities.

The yellow-blossum pearly mussel could be jeopardized by the construction of impoundments on the streams they inhabit. Although the non-designation of the stream segments per se could probably not be considered a significant adverse impact, non-designation carries with it the possibility that one or more impoundments may eventually be constructed and thus could be considered an adverse impact in the secondary sense.

## Potential Direct Effects

### *Alternative #1: No action*

Non-designation of both rivers will have no effect on the listed species. Current management practices will continue.

### *Alternative #2: Designate Tellico River, do not designate Hiwassee River*

Effects are the same as alternative #1. The mussel considered in this BA is not known to occur or have habitat in the Tellico River.

### *Alternative #3: Designate both Hiwassee and Tellico Rivers*

Effects of designating both rivers will be the same as alternative #1.

## Indirect and Cumulative Effects

### *Alternative #1: No action*

There will be no effect by non-designation. Any future management will be evaluated on a case by case basis. Current management will continue with this alternative. Any future projects on either river will be analyzed in site specific BE's and a decision document.

### *Alternative #2: Designate Tellico River, do not designate Hiwassee River*

The yellow-blossum pearly mussel is not known to occur or have habitat in the Tellico River. Therefore, there will be no effect to the mussel if this alternative is chosen.

### *Alternative #3: Designate both Hiwassee and Tellico Rivers*

The designation of both rivers may initially increase human visitation to the areas. With increased visitation comes the risk of increased disturbance of riparian habitat. Riparian habitat acts as a soil stabilizer and prevents excess erosion and sedimentation in the rivers. Although some increase in recreational usage may be expected, it is not likely to have an impact on the endangered mussel.

## DETERMINATION OF EFFECT

The designation of these two river segments as recreational will have no effect on the listed species.

## RECOMMENDATIONS FOR AVOIDING ADVERSE EFFECTS

Establish a monitoring program for species that might be impacted by the designation of these corridors and the corresponding predicted increase in human recreational use of the corridor.

Monitoring occurs at three levels: implementation, effectiveness, and validation. Implementation monitoring asks if a task was completed. Effectiveness monitoring asks if the task goal was achieved. Validation monitoring asks what occurred as a result of the completed task.

Monitoring plans for PETS species potentially adversely affected by river designation involves all levels. To specifically avoid harm to PETS species, information should be gathered about the location, and condition of PETS species. The appropriate biologist should be consulted. Checks of surveys indicate monitoring effectiveness in place for PETS species.

The following monitoring plans provide Forest Plan implementation monitoring (species information) and Rivers project validation monitoring (effects of the project on these species).

Yellow-blossum pearly mussel (*Epioblasma floretina floretina*): the Forest Service will coordinate with the USFWS and the Tennessee Valley Authority (TVA) to monitor the historic location of the mussel.

In the event that recreational activities are found to have an impact on federally listed or sensitive species on federal lands along any of the proposed river corridors, steps will immediately be taken to eliminate the cause of those impacts. The Forest Service, the USFWS, the Tennessee Department of Environment and Conservation, the Tennessee Wildlife Resources Agency, and the North Carolina Wildlife Resources Commission will cooperate in determining the necessary actions.

The implementation of a monitoring schedule for all federally listed species along the corridors should allow the timely identification and elimination of factors leading to species decline. Monitoring will aid in species conservation despite any increase in human visitation.

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/s/ Mary Dodson  
Mary Dodson, Wildlife Biologist

10/22/93  
date

/s/ Stephanie Medlin  
Stephanie Medlin, Fisheries Biologist

10/22/93  
date

/s/ Mark Pistrang  
Mark Pistrang, Botanist

10/22/93  
date

/s/ Jenny Williams  
Jenny Williams, Fisheries Biologist NC

11/2/93  
date

## **APPENDIX C: BIOLOGICAL EVALUATION**

United States  
Department of  
Agriculture

Forest  
Service

Cherokee National Forest  
Ocoee Ranger District

Reply To: 2670

Date: October 22, 1993

Subject: Biological Evaluation for Wild and Scenic Rivers Designation  
Hiwassee and Tellico Rivers

To: Forest Supervisor

In compliance with the Forest Service Manual 2670, a biological evaluation has been prepared for the above project and is attached to this memo.

/s/ Mary M. Dodson  
Wildlife Biologist

cc: J. Herrig

## BIOLOGICAL EVALUATION

### USDA FOREST SERVICE, SOUTHERN REGION

#### WILD AND SCENIC RIVERS DESIGNATION HIWASSEE AND TELLICO RIVERS

##### INTRODUCTION

The project under consideration is the proposed recreational designation of certain segments of the Hiwassee and Tellico River in the National Wild and Scenic Rivers System. The segments are located on the Hiwassee, Tellico, and Tusquitee Ranger Districts of the Cherokee National Forest and the Nantahala National Forest. For each segment, a corridor of adjacent lands extending approximately a quarter-mile to each side of the segment will be included under the designation.

The segments under consideration for designation here include:

Hiwassee River (10.5 miles extending from Apalachia Powerhouse to the Proclamation Boundary)

Tellico River (22.8 miles extending from the headwaters in North Carolina to the McDaniel Bridge near Tellico Plains, Tennessee)

The purpose of this biological evaluation (BE) is to document any potential effects of including the Hiwassee and Tellico Rivers in the National Wild and Scenic Rivers System on sensitive species or their habitat, and to ensure land management decisions are made with the benefit of such knowledge. The objectives of this evaluation are to:

1. Ensure Forest Service actions do not contribute to loss of viability of any plant or animal species or cause a trend toward federal listing of any species.
2. Provide a process and a standard by which sensitive species receive full consideration in the decision-making process.

Information was collected on wildlife, fisheries, botany, and mussels from the following sources: field surveys, project area habitat conditions, species habitat requirements, species distributions, limiting factors, species status listing, and Proposed Endangered Threatened Sensitive (PETS) species list from the Cherokee National Forest and the Nantahala National Forest. Species that could potentially be affected by actions in the project area were evaluated. A total of 27 species were evaluated for this study (see Status of Species and Habitat in Project Area).

##### PROPOSED ACTION AND AFFECTED AREA

The proposed action is to determine if the Hiwassee and Tellico Rivers should be designated as part of the National Wild and Scenic Rivers System.

The affected area includes the two river segments listed in the introduction to this BE along with a corridor of land extending approximately one quarter of a mile on each side of each river segment.

Information currently available concerning occupied habitat for listed PETS species along the corridors comes from two sources. One source consists of a series of point locations for species occurrences plotted on Forest PETS Maps. The other source is findings from botanical surveys done on both river segments.

**FEDERALLY LISTED SPECIES.** Remarks concerning federally listed species known to occur along the proposed corridors are contained in the accompanying Biological Assessment (BA).

**FOREST SENSITIVE SPECIES.** Forest sensitive species known to occur along the proposed corridors are contained in this BE.



## STATUS OF SPECIES AND HABITAT IN PROJECT AREA

Vegetative communities within the quarter-mile study area vary by aspect and elevation. Elevation ranges from approximately 700 to 1400 feet. The following community types have been identified on the Hiwassee River portion of the study area: riparian/bottomland forest, mesic slope/ravine forest, oak forest, pine-oak forest, pine forest, rock outcrops, and alluvial wetlands (Dellinger 1993). The Tellico River portion contains similar community types with some variation due to elevation (Churchill personal communication).

The riparian/bottomland forest occurs along nearly the entire length of the Hiwassee River segment. The canopy in this forest community is composed primarily of river birch, yellow-poplar, red maple, sweetgum and American sycamore. Common species in the midstory include ironwood, pawpaw, silverbell, and climbing hydrangea, as well as saplings of the canopy species. Common species in the herbaceous layer include smartweed, coneflower, flatseed sunflower, and several species of grasses. Diversity is generally high, although exotics have replaced many of the native species in some areas.

In steeper sections of the Hiwassee River gorge and on north and east facing slopes, the community has been classified as mesic slope/ravine forest. The canopy in this forest type is diverse. Yellow-poplar, basswood, American beech, and yellow buckeye are the most widespread, while red oak and Eastern hemlock are common locally. The midstory is composed of several species of trees, shrubs, and vines. The most prevalent midstory species are flowering dogwood, silverbell, and climbing hydrangea. Herbaceous plants are abundant and include a wide variety of species. The most common include several species of aster, goldenrods, dwarf iris, maidenhair fern, and false solomon's seal.

Oak forests occur on moist slopes in the Hiwassee River study area. The canopy is made up of a diversity of species, including white oak, Northern red oak, red maple, chestnut oak, hickory, black oak, and scarlet oak. Flowering dogwood is the most common midstory species. The herbaceous layer is dense and composed of several aster species, beggars lice, and goldenrod species.

Pine-oak forests occupy many upper slopes of the study area. Virginia pine, white oak, hickory, and chestnut oak are the most common canopy species. Sourwood and flowering dogwood are frequently found in the midstory layer. The herbaceous vegetation is diverse although not abundant. Some of the more common species include a variety of asters, tickseed sunflower, and flowering spurge.

In pine forests, located on dry ridges, Virginia pine is the dominant canopy species. Oaks and hickories occasionally appear in the canopy. Sourwood, red maple, and sparkleberry are common midstory species. The herbaceous layer is sparse with little diversity and includes little bluestem, tickseed sunflower, and flowering spurge.

Rock outcrops are scattered throughout the steeper areas, primarily on the north slope of the upper Hiwassee River gorge and the south slope of Chestnut Mountain. Little vegetation occurs on the rocks themselves, however, Virginia pine and eastern redcedar are the common tree species found in these areas. Vines such as Virginia creeper and crossvine are also common in some areas. Herbaceous plants are sparse and represented most commonly by little bluestem and goldenrod in the upper gorge.

Two small areas of alluvial wetlands have been identified on the Hiwassee River. River birch and yellow-poplar can be found around the edges of the wetlands. The dominant vegetation form is herbaceous and represented by sedges, tearthumb, and wapato.

The following sensitive species were evaluated for this study. All were found on occurrence maps of the area or were found during surveys, except Monotropsis odorata. That species was not found, however, suitable habitat exists in the area.

CLASS/ FAMILY	SCIENTIFIC NAME	COMMON NAME	FED	TN	NC
Bird	Pandion haliaetus	Osprey	~	E	~
Mammal	Sorex palustris punctulatus	Southern Water Shrew	C2	D	SC
Bivalve	Lexingtonia dolabelloides	Slabsided Pearly Mussel	C2	T	~
Amphibian	Cryptobranchus alleganiensis	Hellbender	C2	S	SC
Fish	Percina aurantiaca	Tangerine Darter	~	D	~
Fish	Percina burtoni	Blotchside Darter	~	S	E
Snail	Lithasia verrucosa	Varicose Rock Snail	C2	E	~
Araliaceae	Panax quinquefolius	American ginseng	C3c	T	SR
Asteraceae	Hieracium scabrum	Rough hawkweed	~	T	~
Brassicaceae	Cardamine flagellifera	Bittercress	~	T	~
Campanulaceae	Lobelia amoena	Southern Lobelia	~	S	~
Cyperaceae	Carex manhartii	~	~	*	~
Cyperaceae	Carex projecta	Sedge Necklace	~	~	C
Cyperaceae	Carex ruthii	Ruth's Sedge	~	T	~
Ericaceae	Monotropsis odorata	Sweet pine-sap	~	T	C
Ericaceae	Vaccinium hirsutum	Hairy Blueberry	~	~	C
Hymenophyllaceae	Trichomanes petersii	Dwarf-filmy fern	~	E	T
Isoetaceae	Isoetes macrospora	Large-spored Quillwort	~	E	
Juglandaceae	Juglans cinerea	Butternut	C2	T	~
Lamiaceae	Stachys clingmanii	Hedge-nettle	~	T	C
Lichen	Hydrothyria venusa	Aquatic lichen	~	~	C
Ophioglossaceae	Botrychium matricariifoli	Alabama Grape-fern	~	S	SR
Orchidaceae	Cypripedium acaule	Pink lady-slipper	~	E	~
Poaceae	Calamagrostis porteri	Porter's reedgrass	C3c	E	SR
Poaceae	Poa palustris	Fowl bluegrass	~	S	SR
Saxifragaceae	Saxifraga careyana	Goldeneye Saxifrage	C3c	S	C

Abbreviations used:

**FED = Federal status**

C2 Category 2 Candidate for Federal listing

C3c Category 3c No longer being considered for Federal listing

~ Not listed

**TENN = Tenn. status**

E Endangered

T Threatened

D Deemed in need of management

S Special concern

\* First Tenn. location documented-no status

~ Not listed

**NC = North Car. status**

E Endangered

T Threatened

C Candidate

SC Species of concern

SR Significantly rare

~ Not listed

## POTENTIAL EFFECTS

Regardless of whether or not these proposed stream segments are designated, any activity that is planned, carried out, funded, or permitted by the Forest Service on federal lands within any of the proposed corridors will require the preparation of a separate BE. This will ensure that impacts to all PETS species are evaluated and minimized before any such activities are carried out on the ground. It will also ensure that thorough searches will be conducted for rare wildlife, fisheries, mussels, and plants, including all of the listed species dealt with here, prior to the initiation of any activities that might affect local populations of rare species.

The designation of these two river segments as recreational would remove the ever present threat of impoundment from these areas and would thus allow for the long-term maintenance of the free-flowing aquatic and riparian habitats upon which most of these species depend for survival. This may be viewed as a significant beneficial impact for each of these species.

The Forest Service has determined that the designation of river segments as recreational will nearly always result in an immediate (perhaps light) increase in human visitation to each designated segment. This increase in visitation will carry with it an increased risk of impacts to rare species on the part of the visitors. Especially vulnerable are those species which occur in fragile or uncommon habitats likely to be used by people engaged in river-leased recreation activities.

Virtually all of the forest sensitive species occupying aquatic or riparian habitats could be jeopardized by the construction of impoundments on the streams they inhabit. Although the non-designation of the stream segments per se could probably not be considered a significant adverse impact, non-designation carries with it the possibility that one or more impoundments may eventually be constructed and thus could be considered an adverse impact in the secondary sense.

### Potential Direct Effects

#### *Alternative #1: No action*

Non-designation of both rivers will have no effect on any of the sensitive species. Current management practices will continue.

#### *Alternative #2: Designate Tellico River, do not designate Hiwassee River*

There will be no direct effects to sensitive species by designating the Tellico River as "recreational". Non-designation will have no direct effects on species along the Hiwassee River.

#### *Alternative #3: Designate both Hiwassee and Tellico Rivers*

There will be no direct effects to these species by designation.

### Indirect and Cumulative Effects

#### *Alternative #1: No action*

There will be no effect to sensitive species by non designation. Any future management will be evaluated on a case by case basis.

#### *Alternative #2: Designate Tellico River, do not designate Hiwassee River*

Riparian habitat provides food and shelter for many species. Shoreline vegetation also acts as a soil stabilizer and prevents excess siltation. This is beneficial to fish species needing clear water for spawning and feeding. The designation of the Tellico River may increase human visitation to the area. Increased human disturbance may effect riparian habitat by compacting soil and denuding the shoreline of vegetation, however, any increased siltation caused by human disturbance is expected to be minor and will not have any serious impacts on fish species.

#### *Alternative #3: Designate both Hiwassee and Tellico Rivers*

The effects of designation are similar to Alternative #2. Increased human disturbance may impact the riparian vegetation, but will have little affect on species dependent on that type of ecosystem. American ospreys have been observed in both the Hiwassee and Tellico River areas and are also vulnerable to human disturbance while nesting. However, there is not expected to be a large enough increase in visitation to interfere with their behavior.

### DETERMINATION OF EFFECT

The designation of these two river segments as recreational will have no impact on forest sensitive species.

### RECOMMENDATIONS FOR AVOIDING ADVERSE EFFECTS

Establish a monitoring program for all forest sensitive species that might be impacted by the designation of these corridors and the corresponding predicted increase in human recreational use of the corridor.

Monitoring occurs at three levels: implementation, effectiveness, and validation. Implementation monitoring asks if a task was completed. Effectiveness monitoring asks if the task goal was achieved. Validation monitoring asks what occurred as a result of the completed task.

Monitoring plans for sensitive species potentially adversely affected by river designation involves all levels. To specifically avoid harm to sensitive species, information should be gathered about the location and condition of the species. The appropriate biologist should be consulted. Survey checks indicate effectiveness of monitoring in place for sensitive species.

The following monitoring plans provide Forest Plan implementation monitoring and Rivers project validation monitoring (effects of the project on these species).

American osprey (Pandion haliaetus carolinensis): population inventory and nesting sites will be monitored by float trips, airplane flight trips, installing nesting platforms, or by driving by.

Southern water shrew (Sorex palustris punctulatus): population inventory and reproductive success will be monitored using live traps.

Slabsided pearly mussel (Lexingtonia dolabelloides): populations will be monitored annually by snorkeling and/or using clear bottomed buckets; occupied mussel beds will be sampled accordingly.

Hellbender (Cryptobranchus alleganiensis): population inventory and reproductive success will be monitored by snorkeling and/or backpack electrofishing.

Tangerine darter (Percina aurantiaca): population inventory will occur annually as water conditions permit; a backpack shocker or snorkeling will be used.

Blotchside darter (Percina burtoni): annual population inventory will occur as water conditions permit; a backpack shocker or snorkeling will be used.

Varicose rock snail (Lithasia verrucosa): population inventory and reproductive success will be monitored by snorkeling and/or backpack electrofishing.



Plants: populations will be monitored periodically. Plant condition and their number will be recorded.

Implementing a monitoring schedule for sensitive species along the corridors will allow the timely identification and elimination of factors leading to decline. Elimination of those factors will result in the conservation of species despite any increase in human visitation.

In the event that recreational activities are found to have an impact on sensitive species on federal lands along any of the proposed river corridors, steps will immediately be taken to eliminate the cause of those impacts. The Forest Service, the Tennessee Department of Environment and Conservation, the Tennessee Wildlife Resources Agency, and the North Carolina Wildlife Resources Commission will cooperate in determining the necessary actions.

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<u>/s/ Mary M. Dodson</u>	<u>10/22/93</u>
Mary Dodson, Wildlife Biologist	date
<u>/s/ Stephanie Medlin</u>	<u>10/22/93</u>
Stephanie Medlin, Fisheries Biologist	date
<u>/s/ Mark Pistrang</u>	<u>10/22/93</u>
Mark Pistrang, Botanist	date
<u>/s/ Jenny Williams</u>	<u>11/2/93</u>
Jenny Williams, Fisheries Biologist	date

## **APPENDIX D: PUBLIC PARTICIPATION REPORT**

**CHEROKEE NATIONAL FOREST**  
**WILD AND SCENIC RIVERS STUDY**  
**TELLICO & HIWASSEE RIVERS**

**- PUBLIC PARTICIPATION REPORT -**

August 30, 1993

Revised:

Prepared by: Amy Fore/Terry McDonald

Reviewed by: Reese Scull

Keith Sandifer

Approved by: John F. Ramey



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## **I. Introduction/Background:**

In 1990 the process to determine the eligibility and suitability for Wild & Scenic Rivers Act designation began for seven rivers in the Cherokee National Forest. The Forest Service is currently conducting a suitability study for the Tellico and Hiwassee Rivers to determine if they are suitable for inclusion in the National Wild & Scenic Rivers System. Both rivers have been potentially classified as "recreational."

If the study determines that one or both rivers are suitable a recommendation will be made to the Secretary of Agriculture. If the Secretary approves the recommendation it will be transmitted to Congress for legislative action.

The suitability study provides the public with the opportunity to express their concerns and provide input. A public comment period began when the Notice of Intent appeared in the Federal Register on June 28, 1993 and lasted until July 30, 1993. Approximately 1,000 letters explaining the process and seeking written comment were mailed to adjacent land owners and individuals, groups and agencies on the Forest mailing list. Two public open houses were conducted on June 20 (Tellico River) and June 22, 1993 (Hiwassee River) to provide details about the study and to receive written comments. A total of 25 people attended the Tellico open house and 46 attended the Hiwassee open house.

A total of 94 written public comments were received. A number of issues and concerns were expressed and will be used in the EIS process. Comments will be addressed in the Environmental Impact Statement.

## **II. Public Participation Plan and Timelines:**

The following public participation plan was developed to ensure that the appropriate steps were taken to involve the public with the Wild & Scenic River Study.

### Objectives:

To establish strategies for:

- 1) Identifying interested and affected publics
- 2) Providing current and accurate information about the study to interested and affected publics.
- 3) Solicit public input through the request for specific issues and concerns.
- 4) Documenting and analyzing public comment

The public participation action plan is divided into three segments and addresses the following:

- A. The initial scoping process
- B. The Draft Environmental Impact Statement (DEIS) comment period.
- C. The release of the Final Environmental Impact Statement (FEIS).

## THE INITIAL SCOPING PROCESS

	<u>ACTION</u>	<u>WHO</u>	<u>WHEN</u>
1	Develop current mailing list from landowners/CNF/NF's/NC/Eligibility Study	Team	5/14/93
2	Compose and submit NOI to Federal Register	Amy/SWAP	5/14/93
3	Prepare scoping letter/fact sheet -comment period -general study info -mtg dates/location	Amy/PAO	5/14/93
4	Mail scoping letter/fact sheet	SO/REC	In accordance with NOI Publication
5	Make key congressional contacts to inform/seek support (County Exec. State Rep)	PAO	As soon as NOI is published in Fed Register
6	Prepare/mail news releases (local papers and internal to RO, District, Etc.)(Knox, Chatt, Asheville, BIA, Monroe, Etc.)	Amy/PAO	2 wks prior to public mtg
7	Prepare and submit legal notice to Knox, Chatt, Asheville, locals	Amy/Keith	When NOI is published in Fed Register
8	Prepare meeting Action Plan -Format -Additional participants -Materials needed	Team/PAO	Finalize upon release of scoping letter
9	Receive public input -From mail solicitations -Informal phone calls, contacts from media announcements	Team/REC	Ongoing during comment period
10	Develop public input content -analysis process -code -format	Team/PAO	2 weeks prior to conclusion of comment period
11	Conduct public input content analysis	Team	as comments are received -Completed 10 days after end of comment period.
12	Prepare public contact analysis report to include -respondent list -issue list -copy of NOI -copy of public notices/letters, mtg notes, etc.	Amy/PAO	" "

## DRAFT EIS COMMENT PERIOD

1st - Alternatives must be developed from public comment period issues/concerns DEIS draft is developed, routed to RO, WO, internal SO.

	<u>ACTION</u>	<u>WHO</u>	<u>WHEN</u>
1.	Incorporate SO/RO/WO comments	TEAM	
2.	Finalize DEIS mailing list	Team/REC	2 weeks prior to DEIS release
3.	Depending on document length begin GPO copying/printing process	PAO	1 week prior to release of DEIS
4.	Prepare list of DEIS viewing locations-SO, Districts-Libraries, etc.	Amy/PAO/	"
5.	Determine comment period -Who gets DEIS copy -How to handle input, etc.	Amy/PAO	"
6.	Submit DEIS to TPA for Federal Register Notice of Availability	Amy/PAO	"
7.	Prepare scoping letter News releases	Team	"
8.	Mail scoping letters & news releases to appropriate sources -summary of DEIS -Where to view DEIS -How to get a copy of DEIS -Who to contact for more info	Amy/REC/PAO	"
9.	Congressional contacts	PAO	"
10.	Receive written comments -Formulate mailing list	Team/REC	During comment period
11.	Content analysis of public comments	Team	During comment period to be completed w/in 2 weeks of comment period.
12.	Prepare public participation analysis report	Amy/PAO	"

## FINAL ENVIRONMENTAL IMPACT STATEMENT

	<u>ACTION</u>	<u>WHO</u>	<u>WHEN</u>
1.	Determine most appropriate method of printing FEIA - contact GPO	PAO	At least 2 months prior to completion of EIS
2.	Finalize mailing list -best method to mail (packaging, etc)	Team/PAO/ SWAP	
4.	Determine viewing locations	Team	
5.	Mail FEIS/cover letter/R.O.D. to mailing list developed from DEIS comment period/other agencies, etc./ appropriate key contacts.	All	



United States  
Department of  
Agriculture

Forest  
Service

Cherokee National Forest  
Ocoee Ranger District

**Reply To:** 2350

**Date:** September 14, 1993

**Subject:** Wild and Scenic River Studies

**To:** Regional Forester

We are in the process of conducting a suitability study of the Hiwassee and Tellico Rivers.

We are not studying the Conasauga and Jack's River. In our 2350 memo of September 6, 1991, we requested that you reconsider our being designated the lead Forest for the Jack's and Conasauga study because only six of the forty-three miles to be studied are located in Tennessee. The remainder is located in Georgia. To date we have received no response to our memo, a copy of which is attached.

The following time line for completing the suitability study for the Hiwassee and Tellico reflects the assignment of individuals to this project who have collateral duties.

August-Oct, 1993...Content analysis, development of alternatives and formulation of all info for Study Report and PDEIS.

Nov. 5, 1993 Rough Draft EIS ready for internal review by SO/RO specialists

**Pre-requisites**

North Carolina completes info on:

Geology, Minerals, Vegetation, Access-Structures, Recreation (trails, dispersed rec.), NC rivers (designated and study), VQO, Cultural Resources, Eligibility info, Mgmt areas, botanical info.

Cherokee completes:

Climate, soils, floodplain, wetlands, water-rights, botanical, vegetation, T/E, W&S rivers in geographical area, Effects section is complete and BA/BE are complete.

Dec 5, 1994...Receive and incorporate input from internal review.

Feb 23, 1994...Draft EIS available for public review and review by RO/WO.

**Pre-requisite**

All rough draft review info has been received  
All current format info has been incorporated  
GPO printing regulations are followed.

April 11, 1994...Comments due on Draft EIS

Pre-requisite  
Draft EIS is prepared according to timeline

April 25, 1994...Content analysis of comments received on DEIS

Pre-requisite

RO/WO/public comments are received in timely fashion.

May 1- July 15, 1994...Prepare Final EIS. Determine printing procedure and prepare Record of Decision for Federal Register.

August 15, 1994...Final EIS and Study Report ready for printing and distribution.

Pre-requisite

All coordination with necessary resources has been timely and in accordance with this tentative schedule.

We do request the assistance of a master performer to advise us in the development of the Draft and Final EIS.

/s/ John F. Ramey

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JOHN F. RAMEY

Forest Supervisor

Enclosure

### **III. Initial Scoping Process:**

The initial scoping (public participation) period for the Wild & Scenic Rivers Study began on June 28, 1993 when the Notice of Intent appeared in the Federal Register and lasted until July 30, 1993. Members of the W&S Study team made a number of contacts with various elected officials, adjacent landowners and interested individuals to notify them of the study and to answer questions. In addition approximately 1,000 letters were sent to individuals, groups, agencies and organizations on the Cherokee National Forest mailing list to inform them of the study and to seek public issues and concerns. On June 24, 1993 13 news releases were mailed to the media. Two open houses were also conducted to provide information about the study, answer questions and to seek written comments.

As a result of the initial scoping process approximately 100 written comments were received and a number of issues and concerns were identified.

Following is a summary of the steps taken during the public participation scoping period.

**A. Notice of Intent:** Following is a copy of the Notice of Intent that appeared in the June 28, 1993 Federal Register.

[3410-11]

DEPARTMENT OF AGRICULTURE

Forest Service

Suitability study of the Hiwassee and Tellico Rivers for inclusion in the National Wild and Scenic Rivers System; Cherokee and Nantahala National Forests, Monroe and Polk Counties, Tennessee; Cherokee County, North Carolina.

**AGENCY:** USDA, Forest Service

**ACTION:** Notice of Intent to prepare an environmental impact statement.

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**SUMMARY:** The Forest Service will prepare an Environmental Impact Statement (EIS) to evaluate the environmental impacts of including suitable segments of the Hiwassee and Tellico Rivers classified as wild, scenic, or recreational rivers in the National Wild and Scenic Rivers System. The decision to recommend the nomination of suitable river segments to the National Wild and Scenic Rivers System rests with the Secretary of Agriculture. The Wild and Scenic Rivers Act (PL 90-542) reserves to Congress the authority to include rivers in the National Wild and Scenic Rivers System.

The agency invites written comments and suggestions on the suitability of these rivers and significant issues related to classifying and including them in the National Wild and Scenic Rivers System. In addition, the agency gives notice of the full environmental analysis and decision making process that will occur on the proposal so that interested and affected people are aware of how they may participate and contribute to the final decision.

The Forest Service, Tennessee Valley Authority, and the State of Tennessee jointly manage the recreational opportunities on the study section of the Hiwassee River. The Hiwassee River is a Tennessee Scenic River. The National Forest lands adjacent to the Hiwassee and Tellico Rivers in Tennessee are managed by the Cherokee National Forest; those lands adjacent to the Tellico River in North Carolina are managed by the Nantahala National Forest. The Cherokee National Forest is responsible for the preparation of the EIS.

**DATE:** Comments concerning the suitability of these two rivers and significant issues related to classifying and including them in the National Wild and Scenic Rivers System must be received in writing by July 30, 1993 to ensure timely consideration.

**ADDRESS:** Send written comments to Wild and Scenic River Suitability Study, c/o John F. Ramey, Forest Supervisor, P.O. Box 2010, Cleveland, TN 37320.

**FOR FURTHER INFORMATION CONTACT:** Amy L. Fore, Wild and Scenic Rivers Study Team Leader, Hiwassee Ranger District, Drawer D, Etowah, TN 37331, 615/263-5486.



**SUPPLEMENTARY INFORMATION:** In 1982, the Department of Interior listed the Tellico River (NC and TN) and the Hiwassee River (TN) for possible designation as Wild and Scenic Rivers in the National Rivers Inventory. In 1991, the Cherokee National Forest determined that portions of the Tellico and Hiwassee are eligible as components of the National Wild and Scenic Rivers System. That information and additional findings will be documented in this environmental impact statement. Additionally, the National Forests in North Carolina found the section of the Tellico River located in North Carolina to be eligible. The EIS will address the suitability of all eligible segments of the Tellico and Hiwassee Rivers. Based on the analysis and disclosure of effects displayed in the EIS, the Forest Service will make a recommendation to the Secretary of Agriculture on whether or not these rivers should be included in the National Wild and Scenic Rivers System. The decision to include these rivers in the Wild and Scenic Rivers System rests with the United States Congress upon recommendation from the Secretary of Agriculture.

The Environmental Impact Statement will consider the following eligible river segments:

Tellico (NC)	Headwaters to NC/TN state line	5.8 miles
Tellico (TN)	NC/TN state line to Highway 165 bridge crossing the Tellico River near river mile 30 (old Steel bridge).	17.0 miles
Hiwassee (TN)	Apalachia powerhouse downstream to the Forest proclamation boundary (east end of Long Island).	10.5 miles

Based on information collected in the eligibility study, all river segments are potentially suitable for inclusion in the National Wild and Scenic Rivers System as recreational rivers. The impact study will determine suitability and classification of river segments as wild, scenic, or recreation rivers. The Tellico River in North Carolina was found eligible because of an outstanding native trout fishery. The portion of the Tellico in Tennessee has outstanding recreational, historic and cultural, and botanical values. The eligible section of the Hiwassee River possesses outstanding recreational, fish and wildlife, and botanical values. All eligible sections of both rivers are free of impoundments and, therefore, considered to be free flowing.

The area of consideration for each stream is a corridor a minimum of 1/4 mile from each stream bank for the entire length of the stream within the Cherokee and Nantahala National Forest boundaries.

Significant issues identified during internal scoping include the effects of designation on private lands, the effects of designation on water quality, and the effects on Threatened or Endangered species.

A range of alternatives will be developed based on issues and concerns raised during the scoping process. As a minimum, one alternative will maintain current management without specific protection for the potential corridors (the no action alternative). Other potential alternatives include: 1. Designate all eligible segments of both rivers, 2. Provide protection by means other than designation, and 3. Designate eligible segments with different classifications (wild, scenic, recreational) based on identified issues. The environmental impact statement will disclose the direct, indirect, and cumulative effects of implementing each alternative.

Public participation will be especially important at several points during the analysis process. The first point is the scoping process (40 CFR 1501.7). The scoping process includes, but is not limited to: (1) identifying potential issues, (2) identifying issues to be analyzed in depth, (3) eliminating insignificant issues or those that have been covered by a relevant previous environmental analysis, (4) exploring additional alternatives, and (5) identifying potential (direct, indirect, and cumulative) environmental effects of the alternatives.

The Forest Service is seeking information, comments, and assistance from Federal, State, and local agencies and individuals or organizations who may be interested in or affected by the proposal. This information will be used to prepare a Draft Environmental Impact Statement (DEIS). In June 1993, scoping notices will be published in local and regional newspapers and letters sent to key contacts and interested and affected individuals and groups. Two open houses will be held during the scoping process to give interested parties the opportunity to meet with the planning team and discuss any issues and concerns they have concerning the potential inclusion of the rivers in the National Wild and Scenic Rivers System. The first open house will focus on the Tellico River and will be held on July 20, 1993 at the Tellico Ranger District Office, Tellico Plains, Tennessee from 5:00 pm to 8:00 pm. A second open house, focusing on the Hiwassee River will be held on July 22, 1993 at the Gee Creek State Office Building, 6 miles north of Benton, Tennessee and 7 miles south of Etowah, Tennessee on U.S. Highway 411 from 5:00 pm to 8:00 pm. Media announcements will be made several days in advance of both open houses. Informal contacts through phone calls and visits will be also be made throughout the study. Additional mailings and media releases will occur when the Draft EIS and Final EIS are completed and available for public review.

The responsible official is Mike Espy, Secretary of Agriculture, Administration Bldg, 12th Street and Jefferson Drive, S.W., Washington, DC 20250.

The Draft Environmental Impact Statement is expected to be filed with the Environmental Protection Agency (EPA) and available for public review by March 1994. The comment period on the draft environmental impact statement will be 45 days from the date the EPA publishes the Notice of Availability in the FEDERAL REGISTER.

The Forest Service believes, at this early stage, it is important to give reviewers notice of several court rulings related to public participation in the environmental review process. Upon release of the draft environmental impact statement, projected for March 1994, reviewers must structure their participation in the environmental review of the proposal so that it is meaningful and alerts an agency to the reviewer's position and contentions. Vermont Yankee Nuclear Power Corp. vs. NRDC, 435 U.S. 519, 553 (1978). Also, environmental objections that could be raised at the draft environmental impact statement stage, but are not raised until after the completion of the final environmental impact statement may be waived or dismissed by the courts. City of Angoon vs. Hodel, 803F.2d 1016, 1022 (9th Cir. 1986) and Wisconsin Heritages, Inc. vs. Harris, 490 F. Supp. 1334, 1338 (E.D. Wis. 1980). Because of these court rulings, it is very important that those interested in this proposal participate by the close of the 60 day comment period so that substantive comments and objections are made available to the Forest Service at a time when it can meaningfully consider and respond to them in the Final Environmental Impact Statement.

To assist the Forest Service in identifying and considering issues and concerns on the proposed action, comments on the draft environmental impact statement should be as specific as possible. It is also helpful if comments refer to specific pages and chapters of the draft statement. Comments may also address the adequacy of the draft environmental impact statement or the merits of the alternatives formulated and discussed in the statement. (Reviewers may wish to refer to the Council on Environmental Quality Regulations for implementing the procedural provisions at the National Environmental Policy Act at 40 CFR 1503.3 in addressing these points.

After the comment period ends on the draft environmental impact statement, the comments will be analyzed and considered by the Forest Service in preparing the Final Environmental Impact Statement. The final statement is scheduled to be completed by October 1994.

The Secretary of Agriculture will consider comments, responses, and environmental consequences discussed in the final environmental impact statement and applicable laws, regulations, and policies in making his recommendation to the President regarding the suitability of these rivers for inclusion in the National Wild and Scenic Rivers System. The decision on the inclusion of a river in the National Wild and Scenic Rivers System rests with the United States Congress.

/S/Ralph Mumme  
RALPH F. MUMME  
Acting Regional Forester

6/22/93  
Date

**B. Scoping Letter:** The following scoping letter was sent to approximately 1000 people on the Forest mailing list.

**United States  
Department of  
Agriculture**

**Forest  
Service**

**Cherokee National Forest**

**P.O. Box 2010  
Cleveland, TN 37320  
615-476-9700**

Reply To: 2370

Date: June 24, 1993

Dear Forest User:

In 1982, the Department of Interior listed the Tellico River (North Carolina and Tennessee) and the Hiwassee River (Tennessee) for possible designation as Wild and Scenic Rivers in their National Rivers Inventory (NRI). A study conducted by the Cherokee National Forest in 1991 determined that the Tellico and Hiwassee Rivers are eligible for further study to determine if they are suitable for inclusion in the National Wild and Scenic Rivers System. This study recommended classification as recreational rivers. The National Forest in North Carolina conducted a study on a segment of the Tellico River (headwaters to TN state line) and found it to be eligible for further study as well. The suitability of the following river segments will be studied:

Tellico (NC)	Headwaters to NC/TN state line	5.8 miles
Tellico (TN)	NC/TN state line to Highway 165 bridge crossing the Tellico River near river mile 30 (old Steel bridge).	17.0 miles
Hiwassee (TN)	Apalachia powerhouse downstream to the Forest proclamation boundary (east end of Long Island).	10.5 miles

This study will make a recommendation as to whether or not these two rivers should be recognized and designated as components of the National Wild and Scenic Rivers System.

The study area will include a corridor of land at least one-quarter (1/4) mile on each side of the main stream of each river.

The Tellico River in North Carolina possesses an outstanding native trout fishery and, in Tennessee, has outstanding recreational, cultural and historical, and botanical values. The Hiwassee River possesses outstandingly remarkable recreational, fish and wildlife, and botanical values. The sections of rivers being studied meet the legal requirements for being "free-flowing".

You are invited to participate in the study by providing us with your ideas, comments and concerns. A comment sheet is enclosed for your convenience. Please use this sheet or any format you desire to provide input. Please identify which river your comments are specific to. All responses must be received by July 30, 1993.

Two public "open houses" will be conducted to provide details about the study and to receive written comments. Open houses are scheduled as follows:

**Tellico River:** July 20, 1993 from 5-8 pm at the Tellico Ranger Station located approximately 5 miles east of Tellico Plains. From Tellico Plains travel east on Hwy 165 for about 5 miles, turn right on FS road #210 and follow the river. Go 0.5 mile. Station is on left side of the road.

Hiwassee River: July 22, 1993 from 5-8 pm at the Gee Creek State Park office on Highway 411. Park office is located on the west side of Hwy 411 approximately 6 miles north of Benton, TN, and 7 miles south of Etowah, TN.

No formal presentations will be made and participants are free to come and go as they please. Study team members will be on hand to answer questions and to provide information.

Future W&S River mailing lists will be composed of those individuals, groups, organizations and agencies who provide written comments or attend one of the public open houses.

Written comments mailed to us or received at the open houses will be used to help us prepare a Draft Environmental Impact Statement (DEIS) which will be available for public review and comment. The DEIS will be revised and a Final Impact Statement will be submitted to the Secretary of Agriculture, Mike Espy. The responsibility of designation rests with the United States Congress.

For additional information please contact Amy Fore at the Hiwassee Ranger District, Drawer D, Etowah, TN 37331, (615) 263-5486.

We appreciate your input and interest in the management of your National Forest.

Sincerely,

/s/ John F. Ramey

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JOHN F. RAMEY

Forest Supervisor

Enclosure: Q&A sheet  
Comment sheet

CC: Forest Supervisor, NF'sNC  
W&S Rivers Team  
SWAP-CNF



**C. News Release:** On June 24, 1993 the news release below was sent to the following media: Associated Press (Chattanooga), Associated Press (Knoxville), TENN Radio Network, Cleveland Daily Banner, Ron Clayton News Service (southeast TN.), The News-Herald, The Daily Times, The Maryville Enterprise, The Tennessean, The Oak Ridger Monroe County Advocate, The Tellico Plains Newspaper, Polk County News.

Release Date: June 28, 1993

## TELLICO AND HIWASSEE RIVERS BEING STUDIED

June 24, 1993

Cleveland TN -- In 1990 a Forest Service team of specialists began the process to determine the eligibility and suitability for Wild & Scenic Rivers Act designation of seven rivers in the Cherokee National Forest. The following rivers have been studied to determine their "eligibility" for designation under the Act: Conasauga, Doe, French Broad, Hiwassee, Ocoee, Little Tennessee and Watauga. As a result of the eligibility study the Tellico and Hiwassee Rivers are now being studied to determine their "suitability" for inclusion in the National Wild and Scenic Rivers System.

The first step in the process was to determine which rivers were eligible for Wild & Scenic River Act designation. A river is determined eligible if it has certain outstanding scenic, recreational, geologic, cultural, ecological/ botanical or wildlife characteristics and has a "free-flowing" nature. The team studied those rivers identified in the National Rivers Inventory that flow through National Forest land.

When a river is determined to be eligible, a report is prepared indicating the classification which best fits each segment of the river. Each eligible segment will be given a potential classification. They include: 1) "**Wild**" - These areas are generally inaccessible except by trail, free of impoundments, show little evidence of human activity, and have "unpolluted waters." 2) "**Scenic**" - These areas are free of impoundments, their shorelines are largely primitive and undeveloped, and they are accessible in a few places by roads. 3) "**Recreational**" - These areas are readily accessible by roads, there is some development along the shoreline and small impoundments or diversions are present.

If a river is determined "eligible," the second step of the study to determine its "suitability" begins. Both the Tellico and Hiwassee Rivers have been potentially classified as "recreational." The suitability study for them is currently underway. Suitability is based on the development of the adjacent land, the ability to manage as a wild, scenic or recreation river, and opportunities foregone by restricting further development. The suitability study will provide the public the opportunity to express their concerns and provide input.

Two public informal "open houses" will be conducted to provide details about the study. The open houses will be held as follows:

Tellico River: July 20, 1993 from 5-8 pm at the Tellico Ranger Station located approximately 5 miles east of Tellico Plains. From Tellico Plains travel east on Hwy 165 for about 5 miles, turn right on FS road #210 and follow the river. Go 0.5 mile. Station is on left side of the road. 2nd add -- River Study

Hiwassee River: July 22, 1993 from 5-8 pm at the Gee Creek State Park office on Highway 411. Park office is located on the west side of Hwy 411 approximately 6 miles north of Benton, TN and 7 miles south of Etowah, TN.

Members of the study team will be on hand to answer questions and to provide information. No formal presentations will be made and participants can come and go as they please.

Anyone wishing to submit written comments can do so at either of the open houses or send them to USDA-Forest Service, P.O. Box 2010, Cleveland, TN 37320, ATTN: W&S Rivers. Comments must be received by July 30, 1993.

When completed, the suitability study will be documented in an environmental impact statement. The decision to recommend the nomination of suitable river segments to the National Wild and Scenic Rivers System rests with the Secretary of Agriculture. The Wild and Scenic Rivers Act (PL90-542) reserves to Congress the authority to include rivers in the National Wild and Scenic Rivers System.

For additional information please contact Amy Fore at (615) 263-5486.

**D. Open Houses:** Two public open houses were conducted to provide information about the study, answer questions and to receive written comments. Representatives from the Forest Service made maps of the study area and various types of related information available for public review.

Representatives included Rivers Team Members, Cherokee NF Recreation Staff Officer, Public Affairs Officer, Soil, Water, Air, and Planning Staff Officer, Respective District Rangers for Hiwassee and Tellico Ranger Districts, and Tennessee Scenic Rivers Administrator, Bob Allen.

On July 20, 1993 the open house for the Tellico River was conducted at the Tellico Ranger District Office. A total of 25 people attended. On July 22, 1993 the open house for the Hiwassee River was conducted at the Tennessee State Parks Office near Benton, TN. A total of 46 people attended.

As a result of the open houses a number of written comments were received.

**E. Public Comment Analysis:** At the end of the public comment period for the Tellico and Hiwassee Rivers suitability study public comments were analyzed and issues and concerns related to the project were documented. As written comments were received each was given a respondent number that was used throughout the process.

Each written comment was carefully read. After reading the comment the coder used a code sheet to record each issue and concern. Each was assigned a number that will apply to all similar comments throughout the process. Using a copy of the original comment letter the coder highlighted each issue and indicated next to the highlighted area the issue number(s). Each highlighted area may apply to more than one primary issue.

After the issues were highlighted the coder indicated on the code sheet (copy attached) the various issues identified by number. In the remarks portion of the code sheet the coder (if needed) explained specific or unique aspects of the issue. Many issues did not need an explanation, while others required clarification.

Throughout the analysis process a "spot coder" randomly selected coded inputs (letters) to ensure accuracy and consistency.

The coded inputs and code sheets were used to develop a final list of issues and concerns that will be addressed in the Environmental Impact Statement.

Following is a list of the "generic" issues and concerns used to assist coders with identifying specific issues and concerns in each public input.

## GENERIC

### (Issues concerning both rivers or not specific to either.)

- G-0:** Not an input to this project.
- G-1:** Supports designation - both rivers warrant W&S status
- G-2:** Not in favor - opposes W&S designation for both rivers.
- G-3:** Exclude private land from study and W&S designation.
- G-4:** Maintain current status - manage both rivers as is.
- G-5:** Historic/cultural resources - protection needed.
- G-6:** Protection recreation values of both areas.
- G-7:** Economic impacts
- G-8:** Free flowing section of both rivers deserve W&S status - power plant controlled sections do not.
- G-9:** What effects will W&S status have on current recreation uses?
- G-10:** W&S status could adversely impact municipal water needs and flood control down stream.
- G-11:** "Scenic" classification needed for both rivers - "Rec" not enough.
- G-12:** W&S status needed to protect rivers and adjacent areas from logging and development.
- G-13:** W&S status appropriate for Tellico but not for Hiwassee.
- G-14:** Public access to rivers need managing.
- G-15:** Is cost of study really worth it? Total costs should be made public.
- G-16:** Oppose W&S designation but favor exclusion of dams on both rivers.
- G-17:** Source pollution
- G-18:** Water quality
- G-19:** NF's are for multiple use - W&S status will restrict various uses.
- G-20:** Private land uses could be incompatible with W&S status.
- G-21:** NF land within W&S corridor need more protection - exclude timber management and treat like wilderness status.
- G-22:** Tributaries to both rivers need additional protection (TWRA.)
- G-23:** No condemnation acquisition on private land.
- G-24:** Provide detailed analysis effects on private land.

## HIWASSEE RIVER

### (Issues & concerns specific to Hiwassee River)

- H-1:** Exclude from study/designation.
- H-2:** Litter - W&S status will attract more people.
- H-3:** Leave as is - current management adequate.
- H-4:** Condemnation of pvt. land easements.
- H-5:** Hiwassee does not deserve designation - opposed to designation.
- H-6:** Public access to river is limited - W&S status would add to the problem.
- H-7:** Pvt. landowner rights - W&S status would impose restrictions on pvt. land
- H-8:** Erosion along river bank - wildlife causing problems
- H-9:** State Scenic River status not enough - NRS inclusion needed to provide protection of area.
- H-10:** TES plants - John Muir Trail area rich in wildlife and TES plants.
- H-11:** Additional use that would be generated due to W&S status needs to be monitored and managed.
- H-12:** Should not encourage additional shoreline use.
- H-13:** State Scenic River Status adequate protection.
- H-14:** Water Quality - contamination, siltation, erosion.
- H-15:** Access roads need paving or tar-gravel to prevent run-off/siltation.
- H-16:** Safety - user (rescues, first aid, etc...)
- H-17:** In favor of designation.



## **TELLICO RIVER**

### **(Issues and concerns specific to Tellico River.)**

- T-1:** In favor of W&S status and additional protect of river.
- T-2:** W&S status would adversely effect and restrict pvt. land.
- T-3:** Leave as is - future development should not be restricted.
- T-4:** Economics - a) designation would adversely effect b) designation would enhance
- T-5:** Designation would encourage concessions and outfitters to set up operations and create negative impacts to area.
- T-6:** Recreation use conflicts (anglers, boaters, outfitters, etc...)
- T-7:** Soil & water (logging and ATV/ORV use in area.)
- T-8:** Road maintenance along road - erosion and increased use of area.
- T-9:** Fisheries - protection of.
- T-10:** ORV use on upper river not compatible with W&S status.
- T-11:** Expand study to include adjacent drainages.
- T-12:** "Scenic" classification more appropriate. "Rec" classification not enough.
- T-13:** Effects on pvt. land water and sanitation systems.

Following is a copy of the code sheet used to analyze and code each written public input.

**WILD & SCENIC RIVER STUDY**  
**PUBLIC CONTENT ANALYSIS CODE SHEET**

**Respondent #/name:** \_\_\_\_\_ **Date Coded:** \_\_\_\_\_

**Issues identified: (#)** \_\_\_\_\_

---

**Remarks:**

**Coder: (Initials)** \_\_\_\_\_

**F. Public Issues & Concerns:** As a result of the initial scoping (public participation) scoping process the following issues were identified that were related to the study.

Current River Management: Numerous issues were received concerning current management of both the Tellico and Hiwassee Rivers. Issues ranged from managing both rivers under current regime to additional protection is needed for lands within the river corridors. Some respondents felt as if the recreational classification would not be adequate protection and proposed that the rivers be evaluated for scenic classification. The prevailing concerns were for continued protection of the rivers and the study corridors. The degree of protection necessary was the key component of the concerns.

Lands: Issues relating to lands were predominantly concerns over private land use and potential restrictions. Local landowners voiced concerns that ranged from excluding private lands from the study to issues of no condemnation of private lands.

Cultural Resources: A general comment was received to address the need for the protection of historical and cultural resources in the study areas.

Economics: No specific comments were received about the economics of the two study rivers and surrounding areas. One general comment was received questioning the role designation would have on the areas.

Recreation: Issues received were related to the potential for increased litter if designation occurs, management of the corridors under a no timber harvest regime (similar to wilderness qualities) and the potential for increased user conflicts.

Soil & Water: Effects of the designation or non-designation was the key issue here. The prevailing theme for the issues and concerns was water quality and protection measures necessary to protect both federal and private lands.

Fish/Wildlife/Plants: Concerns here were related to protection of the Hiwassee and Tellico fisheries. One specific comment dealt with the perceived current problem of erosion along the banks of the Hiwassee River as aided by animals.

## **APPENDIX E: REFERENCES**



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## **APPENDIX F: MANAGEMENT GUIDELINES FOR RECREATIONAL RIVER CORRIDORS**



# MANAGEMENT GUIDELINES FOR RECREATIONAL RIVER CORRIDORS

## FSH 1909.12, SECTION 8.2

### RECREATION RIVERS

- a. Timber Productions: Timber harvesting would be allowed under standard restrictions to protect the immediate river environment, water quality, scenic, fish and wildlife, and other values.
- b. Water Supply: Existing low dams, diversion works, rip-rap and other minor structures are allowed provided the waterway remains generally natural in appearance. New structures are prohibited.
- c. Hydroelectric Power: No development of hydroelectric power facilities is allowed.
- d. Flood Control: Existing flood control works may be maintained. New structures are prohibited.
- e. Mining: Subject to regulations (36 CFR 228) that the Secretaries of Agriculture and the Interior may prescribe to protect values of rivers included in the National System, new mining claims and mineral leases are allowed and existing operations are allowed to continue. Mineral activity must be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment.
- f. Road Construction: Paralleling roads or railroads could be constructed on one or both river banks. There can be several bridge crossings and numerous river access points.
- g. Agriculture: Lands may be managed for a full range of agriculture uses, to be extent currently practiced.
- h. Recreation Development: Campgrounds and picnic areas may be established in close proximity to the river. However, recreational classification does not require extensive recreation development.
- i. Structures: Small Communities as well as dispersed or cluster residential developments are allowed. New structures are allowed for both habitation and for intensive recreation use.
- j. Utilities: This is the same as for wild and scenic river classifications.
- k. Motorized Travel: Motorized travel on land or water may be permitted, prohibited or restricted. Controls will usually be similar to surrounding lands and waters.

## **APPENDIX G: GLOSSARY**

## GLOSSARY

**abrogate** Do away with.

**Acid-bearing rock** Rock composed of iron pyrite which forms acidic solution.

**alluvial** Made up of clay, sand, or other material deposited by running water.

**amenity** A resource which does not have market value and/or is not commodity.

**aquatic** Living or growing in water.

**archaeologist** Specialist which studies and recovers evidence of man's life and culture in the past.

**ASQ** Allowable Sale Quantity.

**BA** Biological Assessment.

**BE** Biological Evaluation.

**buffering capacity** The ability to stabilize the pH.

**Best Management Practices (BMPs)** structures or practices designed to control soil erosion and sedimentation from agricultural, forestry, or construction activities.

**calcareous** Soil or rock which contains free calcium carbonate or calcium-magnesium carbonate.

**Calcium hardness** The amount of calcium in the water.

**cfs** Cubic feet per second.

**colluvium** A deposit of rock fragments and soil material deposited by gravity at the base of a steep slope.

**conductivity** The transport of electricity through minerals.

**confluence** The flowing together of two or more streams or rivers.

**conglomerate** Sedimentary rock with the appearance of gravel. Rock and mineral

**coniferous** Group of tree species which bear cones.

**corridor** A linear strip of land identified for the present or future location of a specific condition or project.

**creel** A container carried by anglers to carry fish.

**Cumberland Plateau** Geomorphic section within the Appalachian Plateau physiographic province.

**cultural resources.** The physical remains of human activity (artifacts, ruins, burial mounds, petroglyphs, etc.) and conceptual content or context (as a setting for legendary, historic or prehistoric events, as a sacred area of native peoples, etc.) of an area of prehistoric or historic occupation.

**deciduous** Group of tree species which have their leaves fall or shed at a specific season or stage of growth.

**DEIS** Draft Environmental Impact Statement

**dendritic** In a branching pattern. Similar to the pattern of veins in a leaf.

**designation.** The act of selecting for a particular

**discharge** Release of groundwater in springs or wells, through evapotranspiration, or as outflow from the basin.

**dissolved oxygen** The amount of oxygen which is in solution.

**diversity** The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan.

**easement** The right to make limited use of another's real property.

**EIS** Environmental Impact Statement

**effects** Physical, biological, social and economic results (expected or experienced), resulting from achievement of outputs. Effects can be direct, indirect and cumulative.

**endangered species** Any species, plant, or animal, which is in danger of extinction throughout all or a significant portion of its range. Endangered species are identified by the Secretary of the Interior in accordance with the 1973 Endangered Species Act

**endemic** Native or confined to a certain region; having a comparatively restricted distribution.

**environmental impact statement, draft (DEIS)** A detailed written statement as required by Section 102 (2)(C) of the National Environmental Policy Act.

**erode** To wear away or remove by wind, water, or other agents.

**escarpment** A long, more or less continuous cliff or steep slope facing in one general direction.

**fauna** The animals of a particular region.

**FDR** Forest Development Road.

**FDT** Forest Development Trail.

**fecal coliform bacteria** Bacteria feeding upon feces.

**FLRMP** Final Land and Resource Management Plan

**floodplain** The low and relatively flat area adjoining rivers, including that area subject to a 1 percent, or greater, chance of flooding in any given year. \*Any land area susceptible to being inundated by water from any source.

**flora** All vegetation

**fluvial** Produced by the action of a stream or river.

**geomorphology** The interpretation of present landforms and their relationships to underlying structures, and the geologic changes as recorded by these surface features.



**habitat** An area capable of producing similar plant or animal communities. A place where a plant or animal naturally or normally lives and grows.

**HCRS** Heritage and Conservation and Recreation Service.

**headwaters** The upper tributaries of a stream..

**herbaceous** Green and leaflike in appearance, as distinguished from woody plants.

**hibernaculum** The shelter of a hibernating animal.

**hydropower** Producing electricity with water.

**implementation** A definite plan or procedure to ensure completion.

**impoundment** To accumulate surface water in a reservoir.

**interagency** Agencies cooperating together.

**Interdisciplinary Team (ID Team)** A group of individuals with different training assembled to solve a problem or perform a task. The team is assembled out of recognition that no one scientific discipline is sufficiently broad to adequately solve the problem. Through interaction, participants bring different points of view to bear on the problem.

**inundation** Flooding.

**long-term effects** Those effects which generally occur after the maximum 15-year life of the Forest Plan.

**management area** An aggregation of capability areas which have common management direction and may be non-contiguous in the Forest. Consists of grouping of capability areas selected through evaluation procedures and used to locate decisions and resolve issues and concerns.

**mineral** Naturally occurring inorganic element or compound.

**mitigation** A method or action or series of actions proposed to reduce or eliminate adverse environmental effects.

**meander** Curvature of the stream channel.

**morphologic region** A region separated out according to its distinctive landforms, rock structures, and evolutionary history.

**National Environmental Policy Act (NEPA)** An act which encourages productive and enjoyable harmony between man and his environment; promotes efforts to prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; enriches the understanding of the ecological systems and natural resources important to the Nation; and establishes a Council on Environmental Quality.

**National Forest System** All national Forest lands reserved or withdrawn from the public domain of the United States. All national forest lands acquired through purchase, exchange, donation, or other means, the national grasslands and land utilization projects administered under Title III.

**navigable** A stream in its natural condition is capable of being used to float rafts, logs, etc., and has been used for that purpose.

**NCWRC** North Carolina Wildlife Resource Commission.

**NFIP** National Flood Insurance Program.

**NRI** Nationwide Rivers Inventory.

**NTU** nephelometric turbidity units.

**NWSRS** National Wild and Scenic River Study.

**nonpoint source pollution:** diffuse waste such as soil runoff from agricultural, forestry, or construction activities.

**OHV** Any vehicle capable of being operated off a hard paved road.

**overstory** The portion of the trees that form the uppermost canopy layer in a forest of more than one story.

**oxygenated** Water which is saturated with oxygen.

**PETS** Proposed, Endangered, Threatened, and Sensitive species.

**phenolics** A group of chemicals derived from aromatic compounds.

**physiographic** A region of which all parts are similar in geologic structure and climate.

**point source pollution** waste released by a single, easily identified producer, such as a factory or water treatment plant, and discharged through one route, such as a pipe.

**promulgated** To put into effect by formal public announcement.

**recreation carrying capacity** The number of people an area can hold without damage to resource.

**residuum** A residual product.

**rip rap** A loose assembly of broken stones erected in water or on soft ground as a foundation or to strengthen.

**riparian** Transition area between aquatic ecosystems and terrestrial ecosystems.

**RVD** Recreation Visitor Day. A unit of measure of recreation use.

**scoping process** Public involvement and analysis used to determine the significant issues, range of alternatives, and environmental impacts to be considered in an Environmental Impact Statement.

**sensitive species** Those plant and animal species identified by the Regional Forester for which population viability is a concern. These species may be susceptible or vulnerable to activity impacts or habitat alterations, which may cause downward trends in habitat capability, population and/or distribution.

**sill** A barrier across a stream of water to obstruct the flow.

**siltation** The process of accumulating silt (particles finer than fine sand and coarser than clay); the result of silting (of a reservoir, in this case). "Silting" is more common.

**sinuous** Winding.

**species** Organisms grouped together due to common characteristics and given a common name.

**spur** A side ridge projecting from a mountain or mountain range.

**strata** A layer having the same composition through out the layer.

**suspended solids** The amount of fine particles in the water column.

**TDEC** Tennessee Department of Environment and Conservation.

**terminus** The end of something.

**terrace** A flat, narrow stretch of ground.

**terrestrial** Living and growing on land.

**threatened species** Any species, plant or animal, likely to become an endangered species within the foreseeable future throughout all, or a significant portion of its range. Threatened species are identified by the Secretary of the Interior in accordance with the 1973 Endangered Species Act.

**tributary** A stream or river flowing into a larger stream or river.

**turbidity** Measure of sediment or foreign particles suspended in water. Cloudiness; muddiness.

**TVA** Tennessee Valley Authority.

**TWRA** Tennessee Wildlife Resources Agency.

**USDA** United States Department of Agriculture.

**USDI** United States Department of Interior.

**understory** The trees and other woody plants growing under a more or less continuous cover of branches and foliage formed collectively by the upper portion of adjacent trees and other woody growth.

**viewshed** Area seen by a person along a particular corridor.

**Visual Quality Objective (VQO)** A desired level of scenic quality and diversity of natural features based on physical and sociological characteristics of an area. Refers to the degree of acceptable alterations of the characteristic landscape.

**visual resource** The composite of basic terrain, geologic features, water features, vegetative patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for visitors.

**water table** The surface between the unsaturated zone and the zone of saturation. A surface on which the fluid pressure in the pores of a porous medium is exactly atmospheric.

**watershed** The region draining into a river, or river system.

**wetlands** Areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil. This classification includes swamps, marshes, bogs and similar areas.

**zoning** The partitioning of a local governmental jurisdiction into districts for the purpose of regulating land uses, building height, required yard setbacks, off-street parking and other spatial aspects of development. Zoning districts are delineated on an Official Zoning Map that is a part of the zoning ordinance, along with text specifying development requirements.

## NOTES:

NOTES:





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